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ABSTRACT

This Congressional hearing on the reauthorization of the Education of the Deaf Act examines the progress in implementing research findings and the methods used to provide services to diverse populations within the deaf community. It addresses such issues as the needs of minority deaf students, improving the educational achievement of deaf students who are not college bound, the need for more minority teachers of the deaf, provision of services for individuals with multiple disabilities, and the use of manual versus oral communication methods. It contains statements, prepared statements, letters, or supplemental materials from: (1) Congressional Representatives Major R. Owens and Donald M. Payne; (2) a representative from the National Institute on Deafness and Other Communication Disorders; (3) representatives from private organizations such as the National Black Deaf Advocates, National Association of Deaf Hispanics, and American Association of Deaf-Blind; and (4) representatives from educational institutions and rehabilitation programs, such as Gallaudet University, the Georgia Sensory Rehabilitation Center, and the Central Institute for the Deaf in St. Louis, Missouri. (JDD)

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HEARING ON THE REAUTHORIZATION OF THE EDUCATION OF THE DEAF ACT

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HEARING

BEFORE THE

SUBCOMMITTEE ON SELECT EDUCATION

OF THE

COMMITTEE ON EDUCATION AND LABOR
HOUSE OF REPRESENTATIVES

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

HEARING HELD IN WASHINGTON, DC, MARCH 10, 1992

Serial No. 102-103

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HEARING ON THE REAUTHORIZATION OF THE EDUCATION OF THE DEAF ACT

TUESDAY, MARCH 10, 1992

HOUSE OF REPRESENTATIVES,
SUBC AMITTEE ON SELECT EDUCATION,
COMMITTEE ON EDUCATION AND LABOR,
Washington, DC.

The subcommittee met, pursuant to call, at 10 a.m., Room 2175, Rayburn House Office Building, Hon. Major R. Owens, Chairman, presiding.

Members present: Representatives Owens, Payne, Pastor, Ballenger, and Goodling.

Staff present: Maria Cuprill, Wanser Green, Pat Laird, Sylvia Hacaj, Sally Lovejoy, and Molly Salmi.

Chairman OWENS. The Subcommittee on Select Education will come to order.

Today's hearing on the reauthorization of the Education of the Deaf Act will examine the progress in implementing research findings and the methods used to provide services to diverse populations within the deaf community.

In its 1988 report, "Towards Equality," the Commission on Education of the Deaf identified a critical need for research, development, training, and technical assistance for four special groups of deaf students: those who are lower achieving academically, those who have secondary disabilities, those who have limited English proficiency, and those who are members of minority groups.

While demographic data shows that the percentage of African-Americans and Latino deaf children is growing at a remarkable rate, surveys indicate the dearth of minority personnel, board members, and specialized programs in schools. The education of minority children in this country is third-rate; this picture does not change when we look at the education of deaf children.

According to Dr. Oscar P. Cohen of the Lexington School for the Deaf, helping deaf children become aware of ethnic and cultural differences between themselves and deaf persons of other ethnic groups or between themselves and hearing members of their own ethnic group is an important factor in their education, development, and survival. It is imperative that professionals involved with minority deaf children understand the nature of learning from a multicultural perspective in order to formulate appropriate teaching interventions.

Research has found that deaf children can learn to read; dissemination of information is important; that academically lower achiev-

ing individuals can become successful and productive citizens if provided an appropriate education; and that minority students are poorly educated and are systematically disenfranchised. Research has shown that these are the cases.

Who is responsible for ensuring that these research findings are translated into meaningful, workable programs to benefit deaf children, and how shall we effect change in the lives of our most vulnerable children?

The picture need not be so bleak. Congress must not be timid in legislating to benefit all segments of our community. It should provide resources and look beyond the standard bearers to new program possibilities. Minority staff must be aggressively recruited, placement procedures reviewed, and parents fully engaged and involved.

If we are to fulfill our commitment of an equal education under IDEA, consideration must be given during the reauthorization of the Education of the Deaf Act to the diversity within the deaf community and the unique needs of that diverse population.

Research and development has repeatedly emerged as a decisive factor in all of the modern human concerns, from war and disease to agriculture and consumer comforts. If properly utilized, it is a critical component in the facilitation of an "American solution" to the reform and transformation of American education. This same premise holds true in facilitating solutions for improvements in the education of the deaf.

[The prepared statement of Hon. Major R. Owens follows:]

STATEMENT OF HON. MAJOR R. OWENS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW YORK

Today's hearing on the Reauthorization of the Education of the Deaf Act will examine the progress in implementing research findings and the methods used to provide services to diverse populations within the deaf community.

In its 1988 report, *Towards Equality*, the Commission on the Education of the Deaf identified a critical need for research, development, training, and technical assistance for four special groups of deaf students: those who are lower achieving academically, those who have secondary disabilities, those who have limited English proficiency, and those who are members of minority groups.

While demographic data shows that the percentage of African-American and Latino deaf children is growing at a remarkable rate, surveys indicate the dearth of minority personnel, board members, and specialized programs in schools. The education of minority children in this country is third rate; this picture does not change when we look at the education of deaf children.

According to Dr. Oscar P. Cohen of the Lexington School for the Deaf, helping deaf children become aware of the ethnic and cultural differences between themselves and deaf persons of other ethnic groups or between themselves and hearing members of their own ethnic group is an important factor in their education, development, and survival. It is imperative that professionals involved with minority deaf children understand the nature of learning from a multicultural perspective in order to formulate appropriate teaching interventions.

Research has found that deaf children can learn to read; dissemination of information is important; academically lower achieving individuals can become successful and productive citizens if provided an appropriate education, and minority students are poorly educated and systematically disenfranchised. Who is responsible for ensuring that research findings are translated into meaningful, workable programs to benefit deaf children, and how shall we affect change in the lives of our most vulnerable children?

The picture need not be bleak. Congress must not be timid in legislating to benefit all segments of our community. It should provide resources and look beyond the standard bearers to new program possibilities. Minority staff must be aggressively recruited, placement procedures reviewed, and parents fully engaged and involved.

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I yield to Mr. Ballenger for an opening statement.

Mr. BALLENGER. Thank you, Mr. Chairman.

I want to welcome the witnesses who are here to testify today on the reauthorization of the Education of the Deaf Act.

Noting that approximately one-third of the deaf population has an additional disability that requires different methods and materials for teaching, I think it's especially important that the subcommittee take a look at what is being done in research and technology to give educators different methods and materials for teaching to effectively meet the needs of this group of individuals.

Data has shown us that the majority of deaf youth are graduating from high school on a fourth-grade reading level, lacking the skills they need to continue on to postsecondary education or to be successful in the workplace. Many are low-functioning deaf youth and adults who have deficiencies in language, performance, and social development.

We need to find ways to improve the educational achievement for this segment of the deaf population who are not college-bound. I hope the witnesses today will address what methods are being used for teaching this group of deaf youth and adults. I look forward to the testimony.

Thank you, Mr. Chairman.

Chairman OWENS. Thank you.

I yield to Mr. Pastor for an opening statement.

Mr. PASTOR. Mr. Chairman, just a short statement. First of all, thank you for having the hearing.

I have the profound belief that every American should have the opportunity to educate himself or herself, and that definition includes the deaf and the blind. So, hopefully, this morning I will be able to hear what are the resources that are needed, what are the methods that we need to implement, and how can we recruit and train teachers.

So thank you for having the hearing.

Chairman OWENS. Thank you.

Our first panel of witnesses consists of Mr. Carl Moore—I understand Mr. Moore had had some difficulties getting here, so we will accept him whenever he arrives—Mr. Angel Ramos, National Association of Deaf Hispanics, Rowlett, Texas; Mr. Roderick MacDonald, president, American Association of Deaf-Blind, Silver Spring, Maryland; Dr. Judith Johnson, Department of Education, Gallaudet University; Mr. Steven Sligar, director, Georgia Sensory Rehabilitation Center, College Park, Georgia.

Welcome. We have copies of your written statements, which will be entered in the record in their entirety. You may want to confine your remarks to those items which will highlight your testimony.

You may begin, Mr. Ramos.

STATEMENTS OF CARL MOORE, NATIONAL BLACK DEAF ADVOCATES, INC., ROCHESTER, NEW YORK; ANGEL RAMOS, NATIONAL ASSOCIATION OF DEAF HISPANICS, ROWLETT, TEXAS; RODERICK J. MacDONALD, PRESIDENT, AMERICAN ASSOCIATION OF DEAF-BLIND, SILVER SPRING, MARYLAND; JUDITH L. JOHNSON, DEPARTMENT OF EDUCATION, GALLAUDET UNIVERSITY, WASHINGTON, DC; AND STEVEN R. SLIGAR, DIRECTOR, GEORGIA SENSORY REHABILITATION CENTER, COLLEGE PARK, GEORGIA

Mr. RAMOS. Thank you, Mr. Owens.

Before I begin, let me explain a little bit about myself, okay? I'm not your typical deaf Hispanic. I was born hearing, and I became deaf when I was 9 years old. I could already speak, read, and write.

I'm currently director of the Gallaudet Regional Center in Texas, working with the deaf population and hearing people who work with this deaf population in the Southwest: Texas, New Mexico, Arkansas, Oklahoma, and Louisiana. Most of the people I work with are members of this subpopulation: Hispanics, African-Americans, and Native Americans. But we don't need to go to the Southwest to find out what the needs of this special population are. You have just seen here what the needs are. Let me explain a little bit.

If you look at the deaf people who have come here to testify, we've had people like Dr. Roz Rosen, Dr. King Jordan, Dr. Judy Johnson; in fact, many successful deaf people have been here to testify in support of the reauthorization of the Act. But how many of those people have been minorities? Only one of them, and that was Dr. Robert Davila.

Now, the question is, is this symbolic of the number of minorities in the deaf community? No, no. We have already said that one-third of the deaf population is made up of minorities, and only one doctor, that's Robert Davila? Is this symbolic of what's happening in education in the deaf community? Yes. We all know that very few deaf minorities go on to get a doctorate or master's degree.

I'll give you another example. If you were to compile a list of who's who in the deaf community, you will find a lot of successful deaf people who are lawyers, dentists, school superintendents, successful businessmen. NAD has recently published a monograph, "Perspectives on Deafness." Thirty-two deaf authors wrote about what's happening in America today; 32. Only one of them was non-Anglo; that was Robert Davila.

If you were to come to Dallas, Texas, you would find three mainstream schools. One of them is composed predominantly of Anglo students, another one primarily of African-Americans, and a third primarily of Hispanic students. When students graduate, most of those from the Anglo school continue on to postsecondary education; almost none—almost none—from the African-American school and the Hispanic school.

I worked at Gallaudet University for 7 years, and I've also worked at NTID. At Gallaudet, there are maybe over 200 faculty, staff members, and administrators. How many Hispanics are on the faculty or administrative level? None. How many African-American deaf on the faculty or administrative level? None. How

many Native American Indian deaf are on the faculty or administrative level? None.

I have not given you any statistics, but I'm going to throw one at you. You mentioned earlier that the average reading level of deaf students is fourth grade. Do you realize that we are talking about all deaf students?

If you look at the statistics more carefully, 8-year-old, deaf Anglo students are reading at the 1.8 grade reading level. That's the median. The median Hispanic deaf 16-year-old is reading at the 2.1 grade reading level, which is 3 months better. A 16-year-old Hispanic is reading 3 months better than the average 8-year-old.

The question is: What are the schools doing? What are they doing over the 13 years that the Spanish deaf child is in school?

There are some reasons, and I'm going to give you five of them: First, there are no role models for minority children. Almost all the teachers, the deaf teachers, in schools today are Anglo. Way back when Congress needed more teachers for America, Congress set up programs; they provided scholarships for hearing people to become teachers, and that was very successful. Then we realized that we needed deaf teachers. Congress set up programs to provide scholarships, and today we have a lot of deaf people in education.

Today, we need minority deaf teachers. Congress needs to provide programs, provide scholarships, so that deaf minorities can go on and become teachers and role models.

A second reason: Most schools for the deaf group students according to English ability. Now, if you have good English, you take classes that prepare you for college. Most of these students are, naturally, Anglo. By the time these students graduate, they have the skills necessary to go to college and be successful.

Those students who don't have good English—and in most cases they are minority deaf children—are not allowed to take college level classes. By the time they graduate, they don't have the skills to enter college.

Third reason: A lot of money is being spent in gifted programs, in enrichment classes. Who are the beneficiaries of these programs? Anglo deaf students. We need to rechannel some of this money. Let's move it over to help minority deaf children, such as with after-school programs, evening and weekend tutorial programs.

There are several schools in Texas. Most of them are filled with minority hearing children who are provided after-school, evening, and weekend tutorial programs. These students are being very, very successfully educated. Why can't we do the same thing in deaf education?

A fourth reason is vocational rehabilitation. How many VR counselors are deaf and non-Anglo? I've worked in education for 18 years. I've heard many horror stories of deaf minority people, African-American, Hispanics, who have to work their way through college because VR refused to pay for them, because "You're not able to succeed."

The fifth and last one: Right now, at this very moment, there's a big case in Texas where a young deaf Hispanic lady requested an interpreter in the mainstream schools. For 4 years, she has been fighting; finally, she got an interpreter. For 4 years, the school has

said no. Finally, she was able to get a free interpreter from vocational rehabilitation. She brought the interpreter to school; the school called the cops and threw out the interpreter, even though the interpreter was free.

Now, what is happening to the rights of the parents and the child? By the time they eventually win, if they do, that child will have already been graduated and the damage done.

My suggestion to improve that, although it's not a popular one, is the voucher system. If you give disabled children's parents a voucher so that they can pick whichever school they want to go to, I can assure you that the quality of education in the deaf education system will improve. I mean, all these questions about methods of communication would be thrown out the window. The question will be: Which school can provide the best education?

I know my time is up, so maybe I'll close by saying that I hope I've given you a good testimony of what is happening out there to deaf non-Anglos. I hope that you, Congress, will take the necessary steps to make the appropriate changes so that next time we have to talk about reauthorization of this act, you will see a lot more minority people here testifying in support of it.

Thank you.

[The prepared statement of Angel Ramos follows:]

National Association of Deaf Hispanics
Asociación Nacional de Hispanos Sordos

TESTIMONY: EDUCATION OF THE DEAF ACT REAUTHORIZATION
Prepared by the National Association of Deaf Hispanics
Angel Ramos, President
House Subcommittee Hearing, March 10, 1992
Final Written Testimony

Thank you for asking me to join you today and present testimony on the reauthorization of the Education of the Deaf Act, especially about the state of affairs within that subpopulation of the Deaf community - Hispanics/Latinos, African-Americans, Native American Indians and other people of different colors. For the sake of clarity, I will be using the term Hispanic to refer to both Hispanics and Latinos. Before I begin, let me give you some background information about myself. I am a member of this subpopulation. I am Puerto Rican, Hispanic, a native of New York City. Let me emphasize that I am not the typical Deaf Hispanic - I was born hearing and became Deaf when I was 9 years old. I could already speak, read and write when I became Deaf.

I have been an educator for over 18 years and am currently Director of the Gallaudet University Regional Center in Dallas, Texas. I am responsible for providing continuing education programs and services to Deaf, hard of hearing and hearing people in the Southwest. A large percentage of the people I serve are members of this subpopulation - African-Americans, Hispanics and Native Americans. I am also President of the National Association of Deaf Hispanics, an organization recently established to help bring equality to Hispanic Deaf individuals in every aspect of American life, especially education and employment.

When discussing the subpopulation of the Deaf community, there is no question that the educational system, and the federal government, has failed this subpopulation. The Commission on Education of the Deaf, which was established by the Education of the Deaf Act back in 1986, recognized that failure. In their own words, "The federal government does much more for high-achieving Deaf students than for those whom the nation's schools have failed. The ironic result is that those who need the most receive the least."[1]

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Let me give you several situations that illustrate the magnitude of the failure of our educational system in educating this subpopulation of the Deaf community. The first situation can be found right here, in these chambers, with your own eyes. Let me elaborate. Over the past few weeks many professionals in the field of Deaf education have appeared before you in support of reauthorization of the Education of the Deaf Act, many of them experts who are Deaf and have obtained doctorate degrees - Dr. Roz Rosen, Dr. King Jordan, Dr. Frank Bowe, Dr. Robert Davila, Dr. Judy Johnson - just to name a few. How many Deaf individuals with a doctorate degree have appeared before you? Perhaps 10? How many of them are members of the subpopulation - Hispanic, African-American, American Indian? Only one - Dr. Robert Davila, the only Deaf Hispanic with a doctorate degree in the country! 1 out of 10, or 10% of the Deaf presenters. Is this representative of the Deaf community in terms of population, that only 10% of the Deaf population is composed of non-Anglos? NO. Is this representative of the Deaf community in terms of the educational achievements of non-Anglos? YES.

A second situation that illustrates the magnitude of the failure of our educational system in educating this subpopulation of the Deaf community is the post-secondary student population. Nowhere is the lack of academic achievement by Deaf minority students more evident than at the post-secondary school level. According to research conducted by the Gallaudet University Center for Assessment and Demographic studies, thirty-five percent of the 46,000 Deaf students in the U.S. between 1988 and 1989 were members of minority groups. In comparison, 11 percent of the undergraduate student population and 8 percent of the graduate student population at Gallaudet University is composed of Deaf minority students.[2] This is not to single out Gallaudet University - the situation is comparable at NTID and many other post-secondary institutions for the Deaf.

Since I have worked at Gallaudet University for the past seven years I can tell you first hand what the situation there is like. With respect to the student population, the number of Hispanic Deaf students has increased greatly over the past few years. The undergraduate student composition is still not representative of the diversity within the Deaf community, but it certainly is an improvement over past years. This improvement can be partly attributed to Gallaudet's awareness of the need to actively recruit Deaf minority students and make the campus more diverse.

However, it is not enough for post-secondary institutions such as Gallaudet and NTID to actively recruit for Deaf minority students - Deaf minority students must have the skills that will lead to success at the post-secondary level. Elementary and secondary schools have the primary responsibility of providing Deaf minority students with the skills necessary to succeed at the post-secondary level - they are not fulfilling their responsibility.

It is widely known that Deaf minority students are lagging behind their Anglo counterparts. You have already seen this yourselves as evidence by the number of Anglo and non-Anglo Deaf people who have appeared before you. Dr. Tom Allen, from the Gallaudet University Center for Demographic Studies, has done research which supports this fact. When Dr. Allen examined the achievement levels of Deaf students throughout the United States, he found that Deaf minority students, specifically African-Americans and Hispanics, scored below Deaf Anglo students in all three age groups - 8 years old, 12 years old and 16 years old.[3] What is even more striking is that the median grade reading level of an 8 year old Deaf Anglo student is 1.8 while the median grade reading level of a 16 year old Deaf Hispanic student is 2.1, an increase of only 0.3 years, or 3 months! This is outrageous! The average 16 year old Deaf Hispanic child reads as well as an average 8 year old Deaf Anglo child? What are our schools teaching these Deaf Hispanic children?

A third situation that illustrates the magnitude of the failure of our educational system in educating this subpopulation of the Deaf community is the faculty and administrative composition of Gallaudet University (excluding the Model Secondary School for the Deaf and the Kendall Demonstration Elementary School for the Deaf). There are over 200 faculty members and administrators at the University, many with doctorate degrees. There are NO Deaf African-Americans, NO Deaf Hispanics, NO Deaf Native-Americans on the faculty or administrative level - none! I do not have the statistics for the National Technical Institute for the Deaf, but I would hazard a guess to say that the situation there is just as bleak, if not the same.

This should not be construed as criticism of Gallaudet University, nor NTID - both Gallaudet and NTID are simply a microcosm of the state of affairs within the Deaf community. Like any other University, Gallaudet and NTID can only hire faculty and administrators who are qualified. And that is the problem - the pool of qualified Deaf minorities is almost non-existent.

People will say "Wait a minute. There are many minorities on the faculty and administrative level at Gallaudet and NTID." That is true, but that is not the issue here. The issue is DEAF minorities, NOT hearing minorities. Because there are several hearing African-Americans and hearing Hispanics on the faculty and administrative level, people often say "There is no problem". Wrong. There is a problem. To better understand the nature of this problem, let me give you a hypothetical situation. Were Gallaudet and NTID to be totally composed of hearing Anglos, would that be considered a problem? Of course! We would immediately ask "Where are the Deaf [Anglos] faculty and administrators?". Likewise with the current situation at Gallaudet and NTID - where are the DEAF African-Americans? Where are the DEAF Hispanics? Where are the DEAF Native Americans? Where is the diversity that is characteristic of the Deaf community?

I have been asked if Gallaudet has improved since the appointment of a Deaf President - Dr. Jordan. There is no question that Dr. Jordan has made a tremendous, positive impact on the University and in the community at-large. To Dr. Jordan's credit, the University is more aware of the need to hire Deaf minorities and make the faculty and administration more representative of the diversity within the Deaf community. The University now has one Deaf minority administrator (though not on the main campus) - myself, Director of the Gallaudet Regional Center in Texas. But ONE is not enough - much more needs to be done. We can start by hiring Deaf minorities on a probationary period and giving them time to reach a level of competency - after all, if Gallaudet, NTID and other educational institutions that educate Deaf students can hire hearing people who do not know sign language and are unable to communicate with Deaf students, while giving them several years to learn sign language and become fully competent faculty/administrators, then surely Gallaudet, NTID, and other educational institutions can hire Deaf minorities who do not have all the necessary qualifications and likewise give them several years to become fully competent faculty/administrators. It can be done, and it should be done.

I am confident that with Dr. Jordan's leadership the situation at Gallaudet University will improve, and that the number of Deaf minorities on the faculty and administrative level will accurately reflect the diversity within the Deaf community. I trust that with the gentle prodding of Congress other educational institutions will also follow suit.

A fourth situation that illustrates the magnitude of the failure of our educational system in educating this subpopulation of the Deaf community is in the educational and professional accomplishments of Deaf people over the past 20 years. We can point to the large numbers of Deaf people with doctorates, Deaf people who are lawyers, dentists, stock brokers,program directors, the list goes on and on. The list is very impressive. The list is also almost all-Anglo. The only Deaf Hispanics on that list are Dr. Robert Davila, Assistant Secretary of Education, who also happens to be the only Deaf Hispanic with a doctorate, and perhaps two or three others; Deaf African-Americans - maybe two or three; Deaf Native Americans - none.

A fifth situation that illustrates the magnitude of the failure of our educational system in educating this subpopulation of the Deaf community is in Dallas, Texas. If you were to come to Dallas, you would find three high schools with mainstream programs for the Deaf and hard of hearing. One is predominantly Anglo, the second is predominantly Hispanic, and the third predominantly African-American. Most, if not all, of the Deaf students at the predominantly Anglo school graduate and continue on to obtain a post-secondary education. Almost none of the graduates of the predominantly Hispanic or African-American school do so.

Let me now share with you several reasons why minority Deaf children are not succeeding educationally:

1. There are no role models for Deaf minority children. Almost all the Deaf teachers in mainstream and Deaf schools are Anglo.

2. Deaf minority students tend to attend schools that do not offer comparable educational instructions and opportunities as their Anglo counterparts. For example, the mainstream Anglo school in Dallas is 84% Anglo, 3% Hispanic and 2% African-American. I have been asked why the Hispanic and African-American parents do not send their Deaf children to the Anglo school. We all know that students must attend a school in their district unless they are forced to attend a different school through desegregation orders. We also know that most Hispanic and African-American parents of Deaf (and hearing) children are economically unable to move to a richer Anglo district with better schools.

3. The manner in which students are grouped. If you have good English, you take classes that prepare you for college and by the time you graduate you have the skills and knowledge necessary to attend a post-secondary institution. If you don't have good English, which is the case with many Deaf (and hearing) minorities, you are not allowed to take the classes necessary to attend college. By the time they graduate, this subpopulation only has basic, minimum reading and writing skills, if at all.

4. Unequal distribution of educational funds. A lot of money is being poured into gifted programs and high level enrichment courses. Who are the beneficiaries of these programs? Mostly Anglo students. We need to rechannel some of this money to provide programs specifically for Deaf minorities, such as after-school, evening and weekend tutorial programs.

5. Discrimination within the Vocational Rehabilitation (VR) agency. The vocational rehabilitation counselor is usually the one who determines the Deaf child's educational future. During my 18 years in education I have heard horror stories from minority Deaf students who have had to work their way to college or borrow money to attend college because their VR counselor didn't think they could succeed at the college level. How many VR counselors in the country are Deaf and a member of this subpopulation being discussed today?

6. The inability of parents and students to determine their own educational future. For example, a parent of a Deaf child in El Paso, Texas has been fighting for several years to have an interpreter in the classroom for her daughter. The parent has gone through normal appeal procedures unsuccessfully. Finally, after exhausting all options within the school, the student was able to obtain a FREE interpreter from the Texas Rehabilitation Commission. The school has refused to allow that FREE interpreter into the classroom, and the school board has refused to act on it. By the time the parent goes to court and wins this case the student will have graduated and the damage done. Who is looking after the rights of parents and students?

What can be done to improve the educational achievements of Deaf minorities? Let me suggest the following five steps:

1. **ESTABLISH SCHOLARSHIPS AND PROGRAMS TO TRAIN DEAF MINORITIES TO BECOME TEACHERS AND ADMINISTRATORS.** When this country needed hearing teachers, Congress provided scholarships and now we have an abundance of teachers. When our educational system finally realized years ago that Deaf children needed Deaf role models in our school system, educational programs and scholarships were made available to train Deaf people to become teachers. It was very successful and today we have a large number of educators and administrators who are Deaf, albeit Anglo. Today, we need Deaf Hispanic teachers and administrators, Deaf African-American teachers and administrators, Deaf American-Indian teachers and administrators, Deaf teachers and administrators of all colors. We also need the educational programs and scholarships to make it possible. In the words of the Commission on the Deaf, "Priority for fellowships to qualified applicants should be awarded to members of minority groups and persons who are deaf".[4]

2. **ESTABLISH EDUCATIONAL VOUCHERS THAT PARENTS CAN USE TO PAY FOR THEIR CHILDREN'S EDUCATION AT THE SCHOOL OF THEIR CHOICE.** Let parents decide the educational future of their child by letting them chose the school of their choice. If a school refuses to provide a Deaf student with an interpreter, let the parent take their voucher to a school that will provide their child with an interpreter. If a school is not providing their child with a good education, let the parent take their voucher to a school that will provide their child with a good education. If a parent is not happy with the communication mode of the school in their district, let the parent take their voucher to the school that will provide the communication mode of their choice. If a parent is not satisfied with the educational services being offered by their school, let the parent take their voucher to another school that will provide the educational services that meets the needs of their child.

3. **PROVIDE FUNDING FOR AFTERSCHOOL TUTORIAL PROGRAMS.** When my "son", a Deaf student from Peru that my wife and I are sponsoring so he can get a good education in America, comes home on weekends and vacations periods, we work with him almost every day on his reading, writing and math. He is doing very well thanks to this extra tutoring, but, this is the exception and not the rule. Most Deaf minority students do not receive assistance from their parents. When Deaf minority students leave school in the afternoon, where can they go for help with their homework? Most parents of Deaf minority children do not have the educational background to help their Deaf child. To make matters worse, most parents of Deaf minority children do not know sign language and are unable to effectively communicate with their Deaf child.

   With parents unable to provide educational support, the next option is the child's peers. Again, the Deaf minority child is at a disadvantage - their peers do not have the educational skills needed to help one another. The result is that Deaf minority children do not have a chance to succeed.

   It does not have to be this way. In Houston, TX and in Albuquerque, NM, there are two hearing schools with mostly minority students that are doing a fantastic job of educating Hispanics and African-Americans by providing after-school, evening and weekend tutorial programs. Why can't programs for the Deaf do likewise?

4. **ESTABLISH A FEDERAL WATCHDOG.** Where can a parent turn for help when a school is not meeting the needs of their Deaf child? Who can advocate for the parents? Who can assure that the federal dollars that are going to the states are being used in a manner that is meeting the needs of Deaf children of ALL colors? Only a Federal Watchdog can do this. As I mentioned early, by the time parents and students have gone through the legal procedures that Congress has established to protect the rights of parents and students, the student has graduated and the damage has been done. A Federal Watchdog will prevent this.

5. **CONDUCT AN EXAMINATION OF THE VOCATIONAL REHABILITATION SYSTEM. We need to know how funds are being appropriated and if there is discrimination toward Deaf minorities in the distribution of federal rehabilitation dollars.**

I hope I have given you a good picture of the bleak situation that exists today within this subpopulation, of how the educational system, and vocational rehabilitation, has failed them, and what actions can be taken to rectify this situation. With the Hispanic population expected to increase from 30 million to 37 million people and the African-American population from 31 million to 47 million by the year 2020, accompanied by a corresponding increase in the number of minorities who are Deaf, the need to increase the educational achievements of Deaf minority students is even more critical.[5] On behalf of the Deaf Hispanic community, and of Deaf children of all colors in our country, I ask that everyone on this committee, and the rest of Congress, take the necessary steps to correct this inequality, so that someday in the future, when the time comes again to debate the Education for all Children's Act, you will see Deaf experts appearing before you, of all colors, representing the true diversity of our country, and not what you have seen today.

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Chairman OWENS. Thank you.

Mr. Roderick J. MacDonald.

Mr. MACDONALD. Good morning. My name is Roderick MacDonald. I am president of the Association of the Deaf-Blind. I would like to share some thoughts with you on the needs of deaf-blind people in regard to education of the deaf, but I will only summarize my written testimony.

The first point I would like to make is that deaf-blindness is a unique disability. This is true because the techniques one would normally use to adjust to deafness or to blindness normally require a close attention to the other sense. When both are impaired, the result is considerably more profound than the sum total of the two. A blind person can listen to the radio. A deaf person can drive a car. But a deaf-blind person can do neither.

Historically, it has been the field of blindness that has been credited with doing the most for deaf-blind people, but, in point of fact, the majority of deaf-blind people today attended schools for the deaf. The primary reason for this is that approximately 50 percent of all people who become deaf-blind have the genetic disorder known as Usher's syndrome, congenital deafness coupled with a gradual loss of vision because of retinitis pigmentosa, what most people know as tunnel vision.

The problem really is that there are very few programs designed to help these people. Most effort is focused on research and prevention and cures. There is little to help a person with Usher's syndrome in daily life and especially not in education.

Another area in which the field of deafness has much to offer is in interpreting. There are very few programs that offer any introduction to the needs of deaf-blind when training interpreters. Several pieces of legislation provide funding for interpreters' training, the Education of the Handicapped Act and the Rehabilitation Act, but they both focus on actual setting, as opposed to the people who will be actually benefitting from this, and has taken as a point of departure that the person is going to be deaf.

Interpreting for a deaf-blind person is much different. The deaf-blind person needs visual information, environment information, may well need the assistance of a sighted guide. There are many more ethical issues that must be resolved. It's harder work, and it's more stressful. But there are no training programs to train these people.

I would also like to mention that both Gallaudet University and the National Technical Institute for the Deaf have been established to provide higher educational opportunities for deaf people, and both have, to some extent, opened their doors to deaf-blind people. However, the chances of a person's success are much more dependent on their ability to function as a deaf person than on their academic ability. NTID, in particular, has a screening process that tends to weed out deaf-blind people.

Most of the deaf-blind people who attended schools for the blind do not do well at Gallaudet or NTID. Students who came from schools for the deaf do better, and that is because of the communication. I would like to see both colleges do more to make their programs accessible to deaf-blind people.

In order to summarize what I have said, I would like to give you five objectives, five priorities: First, establish a uniform definition of deaf-blindness as a unique disability yet one that reflects diversity within the deaf field rather than excluding deaf-blind people from it.

Second, establish deaf-blindness as a priority area for program planning within deafness and mandate the inclusion of deaf-blind individuals in this planning process. Three, establish research priorities that focus on the adjustment, daily living, education, and career preparation needs of individuals with Usher's syndrome.

Four, require both Gallaudet University and the National Technical Institute for the Deaf to develop procedures and services to make their programs fully accessible to academically qualified deaf-blind students and require both schools to report to Congress and to the public on their progress in this area.

Finally, provide research and development funding to develop a viable curriculum, model programs, and a long-term implementation plan for a program to train interpreters to work with deaf-blind individuals.

Thank you.

[The prepared statement of Roderick J. MacDonald follows:]

EDUCATION OF THE DEAF: SPECIAL NEEDS OF INDIVIDUALS WHO ARE BOTH DEAF AND BLIND

March 10, 1992

Testimony of
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Deaf-blindness is a unique disability. This is true because the methods and techniques one would normally use to compensate for the loss of hearing, or for the loss of sight, invariably require closer attention to the remaining sense. When both senses are impaired, the effect is considerably more profound than the sum total of the two losses. A deaf person can drive a car; a blind person can listen to the radio; but a deaf-blind person can do neither.

Historically, the field of blindness has been credited with doing the most to help deaf-blind individuals. However, a majority of individuals who are deaf-blind today attended schools for the deaf. This is true primarily because approximately half of the American deaf-blind population have the genetic condition known as Usher's Syndrome - congenital deafness coupled with the gradual loss of vision due to Retinitis Pigmentosa. Approximately three to six percent of all deaf Americans have Usher's Syndrome; in Louisiana, where the Cajun culture has a history of close family inter-relationships, approximately ten percent of all deaf people have Usher's Syndrome.

Part of the tragedy for individuals with Usher's Syndrome is that it is difficult and frustrating to adjust to a situation today that is likely to change for the worse tomorrow; and despite this added dimension, there are virtually no programs specifically designed to meet the needs of these individuals - most of the attention is devoted to research into possible prevention or cures. Added to this is the fact that, although an individual may have a diagnosed degenerative disorder known to lead to deaf-blindness, the individual is not eligible for services as a deaf-blind individual because he or she is not, at this point in time, legally blind; it does not matter that he or she almost certainly will be by young adulthood. Individuals with Usher's Syndrome could, and should, benefit from preparatory services - learning safe methods of orientation and mobility, learning braille, counseling for realistic career development, developing adaptive communication skills, and so on.

The primary problem is that blindness is about the most horrible concept a deaf person can contemplate - the one thing that can take away their independence, traumatize their personal relationships and call into question their very existence as a person. Sign Language, the primary means of communication and a vital part of the culture for most deaf people, is essentially a visual language, and the possible loss of vision raises the specter of total isolation for a deaf person.

Despite all this, the deaf community, and the services available to deaf people, hold enormous potential for deaf-blind individuals. We can overcome any disability if we can just find the means to reach out to the world around us - if we can communicate with others. Deafness holds the key to that communication, because deafness provides us with Sign Language and Fingerspelling, by far the most common and effective methods of communication for deaf-blind people. Most deaf-blind people were active members of the deaf community before losing their sight, and learning to follow Sign Language through tactile means, when previously followed by sight, is no more difficult than learning to read braille after losing the ability to read print. The potential is there - the main obstacles to overcome are fear and misunderstanding, not funding and resources.

Another area in which the field of deafness has much to offer deaf-blind people is interpreting. Deaf-blind people need interpreters even more than deaf people, but there is much more to the interpreter's role, when working with a deaf-blind person, than there is when working with a deaf person. There is the need to provide visual and environmental information a deaf person can see for himself or herself; there is often a need to provide sighted guide assistance; there are far more complex ethical issues to be understood; and the work is definitely more emotionally stressful and physically demanding. Yet there are no interpreting programs specifically designed to meet this need - existing interpreter training programs usually ignore this area of interpreting, or at best offer an introductory-level, non-credit course designed to introduce an aspiring interpreter to some of the more esoteric areas of interpreting. Much, much more needs to be done in this area.

Several laws have been passed by Congress which include provision for training interpreters. The Education of the Handicapped Act provides for the training of interpreters in educational settings, while the Rehabilitation Act funds training programs intended to prepare interpreters to work in a rehabilitation setting. Important as these objectives may be, it is taken for granted that the interpreter will be working with a deaf person, and this has the effect of ensuring that no training program exists to train interpreters to work with deaf-blind individuals. There is a critical need to train interpreters to work with deaf-blind individuals; the particular setting wherein the interpreting will take place is of secondary importance.

In addition to the training itself, there is a separate need to conduct research

to develop a viable training curriculum for this training, and to develop a rationale for its implementation - should this training be implemented as a part of an existing interpreter training program, or should a separate structure be established for this purpose?

Both Gallaudet University and the National Technical Institute for the Deaf (NTID) were established by Congress to provide higher educational opportunities for deaf people. Both have also provided such opportunities for deaf-blind students. However, in both cases a particular student's chances of graduating are more dependent upon his or her ability to function as a deaf person than on the student's academic ability. NTID, in particular, has a screening process which has repeatedly tended to screen out academically qualified deaf-blind students if the student had "special" needs not strictly related to deafness. Gallaudet has done much more to open its doors to deaf-blind students, but even at Gallaudet, a student's chances for success depend heavily on the student's ability to function essentially as a deaf person. Both schools have the high concentration of support services that could make higher education possible for deaf-blind students, but much more needs to be done before either can be considered truly accessible to deaf-blind students.

Deaf-blind people are the forgotten minority within the deaf population, yet every single deaf-blind person, by definition, is also a deaf person. Low incidence or limited resources are no excuse for failing to make services for deaf people accessible to deaf-blind individuals as well.

RECOMMENDATIONS

1. Establish a uniform definition of deaf-blindness as a unique disability, yet one that reflects diversity within the field of deafness rather than justifying exclusion from it.

2. Establish deaf-blindness as a priority area for program planning within deafness; mandate the inclusion of deaf-blind individuals in this planning process.

3. Establish research priorities that focus on the adjustment, daily living, education and career preparation needs of individuals with Usher's Syndrome.

4. Require both Gallaudet University and the National Technical Institute for the Deaf to develop procedures and services to make their programs fully accessible to academically qualified deaf-blind students; require both schools to report to Congress and to the public on their progress in this area.

5. Provide research and development Funding to develop a viable curriculum, model programs and a long-term implementation plan for a program to train interpreters to work with deaf-blind individuals.

Chairman OWENS. Thank you.

Dr. Judith Johnson.

Ms. JOHNSON. Good morning. Can you hear me?

Chairman OWENS. Pull the mike a little closer to you.

Ms. JOHNSON. Is that better?

Chairman OWENS. Yes.

Ms. JOHNSON. Thank you for inviting me to testify about the deaf student with multiple disabilities. Let me tell you a little bit about myself to explain where I'm coming from on this population.

I've been involved with the deaf student with additional handicapping conditions for most of my professional career, that's about 33 years. I've been a classroom teacher, program administrator, worked in adult basic education programs, the full range of programs dealing with this population.

I've seen the full range of students, deaf students, identified as multihandicapped, low-achieving, underachieving, low-functioning. The field has a variety of terms for this population, and we also call them mild, mildly involved, moderately involved, and severely involved. One of the problems is labeling. But, for now, what I'm going to do is talk about a deaf student with multiple disabilities and include all of them, the full range.

We need to understand that when we talk about deaf students who have additional disabilities, we're talking about kids who are deaf and visually impaired, deaf with cerebral palsy, deaf and mentally retarded, deaf with social/emotional problems, deaf with learning disabilities, deaf and behaviorally disordered, deaf with medical and physical problems, the full range.

It's important to understand that each combination of deafness and some other disability results in a unique educational need. In other words, you would teach a deaf student with cerebral palsy differently than you would teach the deaf student with a vision problem. The level of functioning is different; the instructional strategies will be different; the whole thing is different.

The literature over the past 25 to 30 years suggests that some 30 to 40 percent of our deaf students have additional handicapping conditions. The Annual Survey of Hearing-Impaired Children and Youth conducted by the Center on Assessment and Demographic Studies at Gallaudet University, for the 1990-91 survey, reports that of almost 50,000 students in the United States almost 30 percent, actually 29.5 percent, are reported as having additional handicapping conditions.

Now, this has been pretty consistent, 30 to 40 percent has been pretty consistent over the years that I've been in the field, 30 years. This number, 30 percent—let's make it 30 percent for purposes of discussion here—this is consistent regardless of educational setting: residential program, day program, or public school local program. Generally, 30 percent of deaf children have significant additional handicapping conditions.

Now, this results in—no, let me back up here. Most of these kids, the 30 percent of the children, are in the mild to moderate range, meaning their level of functioning is mild to moderate. Some of them are severely involved.

We have cited here that the typical deaf student leaves school with a fourth- or fifth-grade reading level. If we were to look at

this population of deaf students with multiple disabilities, we can say that they fit or fall into the K2, kindergarten, through second grade, level on graduation or on leaving school. So we're talking about the K through 2 population.

That's what I'm saying. Most of these kids are mild to moderately involved. Most of them are educated in the regular classrooms for deaf kids rather than in the highly specialized programs for students with multiple disabilities. This results in a nationwide group of classroom teachers who are trained to work with deaf children but not deaf children with additional handicaps.

Most of the teacher training programs in this country, programs for deaf education, do not require that the students participate in field experiences solely with the multihandicapped nor do they require special classes to be taken; in other words, classes in learning disabilities, mental retardation, they don't require that. So these teachers are trained to work just with the deaf students with no additional handicaps.

This results also in very inappropriate programs. Teachers use the regular deaf education curriculum for long periods of time, very long periods of time, 12, 13 years, and then, when it's too late, they switch to more appropriate programming which is a type of community-based program. They wait too long. They need to start this type of programming very, very early. And we can identify these kids very young. We know who they are.

Some of the things that these kids can learn and should be learning about, for example, are: how to travel within their own communities, how to shop for food and clothing, how to use public transportation, how to cook for themselves, how to use available recreational facilities found in every community.

These are the simple activities of daily living, and this is what the curriculum should be, but, instead, these kids are coloring worksheets, they're studying about Halloween, pumpkins, pilgrims.

Students who are slightly higher functioning are looking at globes and maps and talking about other countries, when they have no understanding of who they are within their own communities. If we must teach map skills, for example, the map skills should be within our own community and not something that is very vague and not known. These kids do not have the cognitive knowledge to understand maps and globes, for example.

So the programming is very inappropriate for these kids. If we continue this type of programming, these are the same kids who are going to grow up and need vocational rehabilitation services for a long time. What we need to do is get them early and start the training appropriately at a very early age, so that the need for vocational rehabilitation is less. It will not be eliminated, but less.

I have three recommendations: Teacher preparation programs need new incentives to encourage the training of new teachers to work with this population. In other words, regular deaf-ed teacher training programs need to focus, add more information, more time with this population, whether it's course work or in practicum, field experience. But they must be given incentives to do this.

Second, we need model programs or laboratory schools to train teachers, new teachers, to research the best instructional strategies and the best types of programming for varying combinations of dis-

ability. Remember, each combination of disability needs a different type of instructional strategy. Somewhere we need to research the best strategy for the best curriculum for a particular combination.

We also need to build a national network for in-service training for the teachers that are currently in the field. We need strong financial incentives to get those teachers retrained.

I've been waiting a lot of years for some action to be taken with this population. I'm very optimistic that this committee will begin moving in the direction that we should be going, and I'm looking forward to seeing all these changes implemented in the near future.

Thank you.

[The prepared statement of Judith L. Johnson follows:]

STATEMENT OF

JUDITH L. JOHNSON, Ph.D.

OF

DEPARMENT OF EDUCATION

GALLAUDET UNIVERSITY

WASHINGTON, DC

BEFORE THE

SUBCOMMITTEE ON SELECT EDUCATION

COMMITTEE ON EDUCATION AND LABOR

U. S. HOUSE OF REPRESENTATIVES

MARCH 10, 1992

Deaf Students with Multiple Disabilities

Judith L. Johnson
Gallaudet University

Good morning.

Thank you for inviting me to testify today on the deaf student with multiple disabilities.

This is an area of major interest to me. I have spent much of my professional career working with this population. I have worked in the classroom with deaf students with no additional handicapping conditions, and I have worked with deaf students with one and more additional handicapping conditions. I have taught students in grades K through 12, worked in adult and continuing education, and administered programs for individuals with multiple disabilities. At present, in addition to teaching and supervising in the graduate teacher preparation program at Gallaudet University, I teach and consult throughout the United States and abroad. I have seen many positive changes in the education of deaf individuals over the years. I am optimistic that further positive change will occur as a result of your efforts.

DEFINING THE POPULATION

When we talk about "deaf students with multiple disabilities" or MHHI (Multihandicapped Hearing Impaired) students, we include deaf students who are known as "developmentally delayed," "low achievers," "under-achievers," and "low functioning." They are also identified as "mildly," "moderately," and sometimes "severely" handicapped. So, one of the first issues confronting us is the need to understand the full range of types of individuals who might fit within this diverse population of deaf individuals. We are talking about deaf individuals who may also have learning disabilities, mental retardation, behavioral problems, social/emotional problems, vision problems, and physical and medical problems. Each combination of deafness and additional handicapping condition poses a unique educational and training need.

POPULATION NUMBERS

When we look at the numbers of deaf students with additional handicapping conditions, (and these numbers and proportions have

remained fairly constant over the past 25 years), we see that we are talking about approximately one third of the deaf population. That so large a percentage of the population has additional handicapping conditions should come as no surprise. One needs only to look at the etiologies of hearing loss to see why this is so. Deafness resulting from spinal meningitis, rubella, the RH factor, scarlet fever, or trauma frequently results in some degree of damage to the brain. Thus, it would be very rare that a disease or injury would single out the nerves for hearing alone. Hence other handicapping conditions are quite possible.

An excellent resource for obtaining data on numbers of deaf children and youth in the United States is the Annual Survey of Hearing Impaired Children and Youth which is distributed each year by the Center on Assessment and Demographic Studies at Gallaudet University to schools and programs known to have deaf students. Approximately 60% of all deaf students in this country are identified by this annual survey.

The Survey compiles individual records of deaf children and youth and tracks them as long as they are in school. One of the questions on the Survey asks about "additional handicapping conditions" which are considered educationally significant.

The 1990-1991 Annual Survey reports that there are 47,973 hearing impaired students receiving special education. Of this number 13,799 students (29.5%) were identified as having at least one or more additional handicapping conditions. Within this group, 4,226 were identified as having learning disabilities (9.1%); 3,695 were identified as mentally retarded (7.9%); 1,949 were identified as behaviorally disordered (4.2%); and 1,773 students (3.8%) were identified as having educationally significant vision impairments.

Deaf students receive special education in three types of educational settings: residential schools, day programs, and local public school programs. Distribution of students among these three types of programs is as follows:

	Total Population	Handicapping Conditions	Percentage
Residential	9,877	2,967	30%
Day Programs	3,949	1,090	28%
Local Programs (Integrated)	22,876	6,331	28%
(Not integrated)	8,544	3,152	37%

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From these data, we can see that regardless of type of educational setting, approximately 30% of all deaf students currently have additional handicapping conditions. This distribution mirrors the non-deaf population in that most of these handicapping conditions fall in the "mild" to "moderate" range. These deaf students are more likely to be found in regular classrooms for deaf students rather than in highly specialized programs for students with multiple disabilities.

This placement creates a number of problems. First, the majority of teachers have not been prepared to work with deaf students who have additional handicapping conditions. Most teacher preparation programs in the field of deaf education do not require their students to take even one course in other disability areas. Second, since teachers are not prepared to deal with deaf students with multiple disabilities, educational programming is often grossly inappropriate. Third, when instruction is inappropriate, learning is delayed. This does an injustice to the student who initially begins his educational career with a number of strikes against him.

CHARACTERISTICS OF DEAF STUDENTS WITH MULTIPLE DISABILITIES

Deaf students with multiple disabilities share common characteristics which seriously curtail or prevent their successful participation in regular classrooms for deaf students. These include: (a) severely limited communication skills; specifically an inability to send and receive messages easily, (b) severe language limitations, (c) inadequate social skills and attitudes, (d) inappropriate behavior patterns, and (e) significant deficits in the performance of independent living skills.

The typical deaf student experiences problems in the acquisition of language and communication skills, and may experience limited difficulty in other areas. However, the deaf student with multiple disabilities exhibits these characteristics for an indefinite period of time and requires highly specialized training. Regular classroom teachers of deaf children can generally cope with the "mildly" involved deaf student. They cannot, however, be expected to appropriately instruct those deaf students who are "moderately" or "severely" involved. It should be noted also that teachers who have been assigned to work with this population continually seek outside assistance, and often return to school for additional professional training after a number of years of struggling to deal with the problems posed by this population. These teachers then return to their classrooms with some ideas on how instruction should proceed, only to find that school administrators are not prepared to implement the appropriate changes.

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Deaf students with multiple disabilities require the same type of instructional programming provided to their hearing peers who have similar disabilities. That is to say, instruction for students who are "moderately" to "severely" involved should focus on the practical - the activities of daily living - banking and shopping skills or travel training, for example.

I cannot tell you how many times I have observed poorly trained but well-intentioned teachers assigned to classes of deaf students with multiple disabilities spending months, even years teaching their students to identify colors, when the students couldn't even identify themselves by name. I have seen many 15-16-17 year old students coloring Pilgrim, Santa Claus, and Easter bunny worksheets. I have seen many other 15-16-17 year old students spending weeks, even months trying to memorize the capitals of the United States when they didn't know how to use public transportation within their own communities.

A core problem is that teachers apply the same methods, materials, and curricula to multiply disabled deaf students as they have been taught to use with regular students who are deaf - and they simply double and triple the dosage, for prolonged periods of time hoping some improvement may result.

Many teachers just do not know what to do with these students. And many supervising teachers, principals, and administrators do not understand the type of programming required. Until teachers and programs serving deaf students with multiple disabilities understand and implement appropriate instructional programming, there will be a continuing need for extensive rehabilitation services for this population.

RECOMMENDATIONS

1. Teacher preparation programs in the education of deaf students need to provide information on curriculum and instruction, and practicum experiences related not only to deaf students, but to the needs that arise from their secondary disabilities. This will not happen unless strong emphasis is placed on new grant programs that require teacher preparation programs to provide their students with training in this area.

2. Deaf students with multiple disabilities need to be educated in settings where teachers understand not only the effects of secondary disabilities when combined with deafness, but have the knowledge and skills to develop the specialized programs required by individual students.

Such settings should also include the multitude of support services required by this population. Currently, no significant effort is ongoing at the national or state level to research and demonstrate the unique needs of individuals with deafness in various age categories with various combinations of secondary disabilities. There is a need to develop at least one model program of systematic research and training in a highly structured University setting which will allow for the development of specialized instructional methods, materials, and curricula for this population on a longitudinal basis.

3. While my travels to various states have made apparent an immediate need for short-term training for teachers currently working with deaf students who also have secondary disabilities, these contacts have made it quite clear that very few parts of the country have organized the expertise necessary to conduct meaningful in-service training on a state by state basis. Such in-service organization is the first logical step toward fostering improvements. Existing state schools for deaf children and youth provide logical sites for such re-training and in-service training of teachers currently in the field. Unfortunately, funds to create a national network based in these existing schools, do not currently exist.

Thank you.

Chairman OWENS. Mr. Steven Sligar. Am I pronouncing your name correctly?

Mr. SLIGAR. No. Sligar.

Chairman OWENS. Mr. Steven Sligar.

Mr. SLIGAR. Thank you, Mr. Chairman. I appreciate the opportunity to be here this morning.

I will talk about the low-achieving or the low-functioning individual who is deaf. I come from a rehabilitation background. As you know, our goals are to put people to work and to assist them to live independently. I have been in the field of deafness rehabilitation for 20 years.

I am currently the director of the Georgia Sensory Rehabilitation Center; prior to that the director of the Southwest Center for the Hearing-Impaired, in San Antonio, which now has a Federal grant for the low-achieving deaf. Prior to that, I did some other work in Texas and in Georgia. I am the past president of the American Deafness and Rehabilitation Association and recently received the Eugene W. Peterson Award for services to the low-functioning deaf population.

This is a very difficult population to define. It's a very difficult population to find. Two years ago it was easier to find them in the vocational departments of schools for the deaf, if they had attempted some type of other education and failed and were placed in the vocational department pushing brooms and washing dishes, or they were misdiagnosed and found in institutions for the mentally retarded or the mentally ill, or they were simply kept at home.

Today, we still have some of those same problems occurring but we have some other factors. Medical advances are keeping more folks alive. We have immigrants that are coming into the country that have not been subject to education here. We have individuals that become lost in the system. And we have other individuals we see that have been mainstreamed without the appropriate support that they need in order to function successfully in a mainstream program.

I have given you three quick case histories in my written testimony. I'd like to update you on those. The first man, from Ethiopia, after rehabilitation services, is living independently. He has recently bought a truck. He has his own apartment. Holds down two jobs; pays a lot of taxes.

The second young man was a 22-year-old, mildly mentally retarded, chronically depressed, hard of hearing individual who was lost in the system due to mental retardation. No mental health, no vocational rehabilitation could find an appropriate program for him, and he is at home trying to find some services to make him a productive member of society.

The third lady that I bring to your attention is currently employed as a housekeeper for a school in Eastern Texas. It is her letter that is in the testimony that I'll read in a minute.

We currently have no census. It has been my experience that approximately one-half to two-thirds of the individuals that we see coming in for rehabilitation services are minorities. I have no hard data to back that up.

There are a number of needs. I have tried to encapsulate those into three areas:

The first is for a good assessment when the individual comes in. The second is vocational, and that's for vocational skill training that could be on the job or through some type of access to a vocational-technical school. The third area is for independent living, access to various social services, as Dr. Johnson outlined so very well, and the ability to live and function independently in the daily living situation.

I have five recommendations that will address some of these. First of all, we need field personnel that can go out and work and help to identify individuals who have slipped through the cracks in the educational system and are not plugged in to the more normal channels of service delivery.

We also need specialized facilities. The Commission on Education of the Deaf, in February 1988, calls for 10 federally-funded regional centers to provide services for this population, and I strongly support this recommendation.

Second, there are three research and training centers on deafness. One in Illinois that has recently been funded, on the Traditionally Underserved Persons Who Are Deaf, has attempted to address some of these needs. There is also a research and training center on the deaf and hard-of-hearing in Arkansas. And there is one on mental health and deafness in California. I strongly support continued funding for these research and training centers.

Individuals who are low-functioning deaf also need to be eligible for and able to get supported employment services. The way it stands now, if they are not developmentally disabled or mentally retarded and eligible for long-term support, mental retardation services, or mentally ill and eligible for long-term support, there's no funding for them in supported employment.

Number four, there needs to be both free and in-service training programs to develop individuals to work with this population and in-service training programs to cross-train other professionals in the area of deafness or to upgrade the skills of those currently in the field.

The last recommendation: There has got to be a better cooperative agreement between special education and rehabilitation. The old network of deafness plugged students from the schools for the deaf into a rehabilitation network. Those that are in mainstream programs may or may not be plugged into rehabilitation service delivery.

I have attended transition staff meetings where the special education person would write down, "Let's just put a T by this skill." That's the transition that we need to plan for. A lot of work needs to be done in the implementation of IDEA.

Finally, to close, I think that, with appropriate rehabilitation services and appropriate education, individuals who are low-functioning and low-achieving can be successful. I would like to quote a letter which I received recently from a young lady I worked with.

It starts off "Dear Steve: How are you doing for you do? I am doing for you are fine.

"I am hoped that you are fine. . . . I am get married on September 14, 1991. Before Mike and me moved in Houston in June 2, 1991. Yes. I am have for Mike's mobile home. . . . I am feeding three cats and one dog. One dog name Cinnamon is a girl. Ok. Cinnamon

is friend kitten boy tan all face brown. My cats Kitty and black cat is girls. She watch only mice my mobile home seven mice. Because she kill four mice! I work every day clean school. I like my work. hard. Money at end of month. Mike and me go to Houston church . . . and we go to bowling . . . all deaf people. We are fun time! I am ok for you!"

She is married. She has pets that kill the mice in her mobile home. She has a job. She's having fun going bowling, going to church, just like the rest of us. I think it's a great letter from a woman who was kept in a mobile home because her family didn't want to deal with her. They thought she was too deaf, too mentally retarded ever to be a contributing member of society.

Thank you for the opportunity to be here.

[The prepared statement of Steven R. Sligar follows:]

TESTIMONY OF

STEVEN R. SLIGAR, DIRECTOR
GEORGIA SENSORY REHABILITATION CENTER
1568 WILLINGHAM DRIVE, SUITE F-200
COLLEGE PARK, GEORGIA 30337
(404) 669-3450 or 1-800-359-1112 V/TTD

March 10, 1992

before the

SELECT EDUCATION SUBCOMMITTEE
COMMITTEE ON EDUCATION AND LABOR
U.S. HOUSE OF REPRESENTATIVES

on

EDUCATION OF THE DEAF ACT
AMENDMENTS OF 1992

SUMMARY

Population: The exact number of low functioning deaf is unknown.

Definition: There is not a clear consensus of agreement as to what constitutes a "low functioning" deaf individual. There are a lot of descriptors.

Needs:

1. Accurate Assessment
2. Vocational training and employment related services
3. Independent Living training and support to live in the "hearing" community

Recommendations:

1. Develop specialized Field Personnel and Facilities.
2. Continue Funding Research and Training Centers in Deafness.
3. Low functioning deaf individuals need to be eligible for supported employment services.
4. Develop pre- and in-service training programs to prepare more professionals to work with low functioning deaf persons.
5. Mandate a cooperative agreement between special education and rehabilitation.

Personal Introduction

I have been in the field of deafness rehabilitation for 20 years. A summary of my work history follows:

1988-Present: Director, Georgia Sensory Rehabilitation Center (GSRC), a state operated comprehensive residential vocational and independent living rehabilitation center for low functioning individuals who are deaf and/or blind.

1979-1988: Director, Southwest Center for the Hearing Impaired (SCHI), San Antonio, Texas, a comprehensive residential vocational rehabilitation and independent living program for low functioning individuals who are deaf.

1977-1979: Vocational Evaluator, SCHI.

1972-1977: Vocational Evaluator, Rehabilitation Center for the Deaf, Cave Spring, Georgia, a residential and vocational training facility adjacent to the Georgia School for the Deaf.

Additionally, I am past president of the American Deafness and Rehabilitation Association and received the Eugene W. Petersen Memorial Award for services to this population.

Population

Twenty years ago it was easier to find and describe the low functioning deaf population. They were at the State School for the Deaf in the Vocational Department performing janitorial type duties; they were often there after failing for years in a school program. Quite often this was an academically oriented program and not appropriate for their needs. Or they were misdiagnosed and placed in institutions for the mentally retarded or mentally ill. Or they were kept at home without any education at all.

Today, we still have some of the same scenarios, plus the products of the urban ghettos, rural isolation, or even the middle class suburbs. Despite the great changes in the educational system these low functioning individuals have still been passed by. Medical advances have enabled many severely disabled children to live beyond birth and removed many diseases. These two factors have caused a significant increase in the number and severity of multiply handicapped deaf persons. Other factors are exemplified by the following three low functioning deaf persons with whom I have worked:

1. A 31 year old profoundly deaf male immigrant from Ethiopia. He was both illiterate and unable to communicate orally in his native language. He has been in the United States for approximately five years.

2. A 22 year old mildly mentally retarded, chronically depressed (clinical diagnosis), and severely hard of hearing young man from a suburb of Atlanta, Georgia. Initially, he was placed in a Special Education Resource room with other disabled children. He then spent the next 12 years changing numerous times from a hearing special education class to a class for hearing impaired as he did not "match" either program.

3. A 27 year old severely deaf female from Conroe, Texas who attended the State School for the Deaf for a few years until her parents came under the mistaken notion that the least restrictive environment would be a mainstream program with an uncertified interpreter for her high school years. She also has a conduct disorder.

Each of these individuals represents the shift in characteristics and change in service delivery needs for low functioning persons who are deaf. While there is no census available on the number of individuals who could be considered as low functioning it has been my experience that approximately 1/2 to 2/3 of these individuals receiving services are from minorities. The influx of immigrants, the impact of poverty and products of inappropriate education all contribute to a very unique set of characteristics present the need for highly specialized services.

Needs

Over the years we have seen the emergence of many fine programs to serve high functioning deaf persons. Further, many more high functioning individuals are able to access regular training by using interpreters. The use of interpreters in regular rehabilitation facilities is not successful with this group because so many have language limitations. While some programs for low functioning deaf individuals have started over the years, they have, for the most part, gone out of business due to costs, staff shortages or loss of supplemental grant funding.

The needs of this group of individuals are as varied and unique as there are individuals. There are some common characteristics of needs which can be summarized in three areas:

1. The need for an accurate **assessment** - For professionals to assist the individual in making informed choices there must be adequate and accurate information available to make the right decision. Psychologists, vocational evaluators, medical doctors and all others who contribute information need to have accurate testing instruments and efficient clinical skills to make the right judgment in addition to training in deafness with the necessary sign language skills.

2. The **vocational** needs are numerous. The first area involves access to a variety of types of vocational training. This could include on-the-job training, or a modified traditional classroom approach such as specific skill classes at a postsecondary level or through simulated training programs at a rehabilitation center. Additional training needs to be provided in job seeking skills, of networking to find a job, the application and interviewing process, and most importantly, acquiring and maintaining behaviors necessary to hold a job. This may require the services of a job coach who can also provide some communication translation.

3. The final area of need can be categorized as **independent living**. Individuals will need a great deal of training to be able to make the best informed choice based on their life circumstances. They will need assistance in transportation, communication and access to a very fragmented adult service delivery system. This includes medical, legal and social services. This access is more than just getting an interpreter as their language limitations may prevent this. Family intervention, especially for youth in transition, also needs to be addressed as low functioning deaf frequently are unable to communicate within or be a part of their own families.

Recommendations

1. **Service delivery** needs to be subdivided into two types.

   A. **Field personnel** trained for outreach and community development.

      Rationale - Due to the difficulty with identification of individuals and their lack of access to services, specialized staff would need to be available and make a dedicated effort to case finding and management.

4

B. Funding of **specialized facilities** using customized service delivery models.

Rationale - This would allow for a concentration of very skilled and specialized staff to meet the unique needs of the individuals. It is also recommended the facilities be flexible in the delivery of services. The Lexington Center in New York and the Southwest Center for the Hearing Impaired in Texas, both federally funded, are exemplary of this type of flexibility in service delivery.

The Lexington Center with its consortium of facilities provides for a greater range of services without a duplication of same. The community based training approach now being attempted at the Southwest Center for the Hearing Impaired is also the most natural of training types.

The Georgia Sensory Rehabilitation Center also utilizes a consortium of facilities which includes two other state operated and one private facility for delivery of work adjustment, medical, psychological and other services. GSRC also provides independent living skills training in apartments in the local community which has demonstrated clients are able to learn quicker and more effectively while actually practicing independent living skills of food purchase and preparation, transportation arrangements, access of medical services and the host of other skills necessary to "make it" in our contemporary society.

The report of the Commission on Education of the Deaf (COED) in February 1988 calls for ten federally funded regional centers to provide services for this population. I strongly support this recommendation. As a beginning this would start the momentum for states to develop services and meet the needs of the individuals at a more local level.

The COED recommendation is supported by the Council of Organizational Representatives (COR) which is a group of 18 organizations in the area of deafness. It is also supported by the American Deafness and Rehabilitation Association.

2. The recently funded Research and Training Center on Traditionally Underserved Persons who are Deaf at Northern Illinois University is a positive step in the right direction. In order to provide services to this population, it is necessary to define many of the common characteristics, provide a census as to the numbers of individuals and develop better tools, skills and abilities in a variety of areas. This will provide or verify successful intervention techniques. This **funding needs to continue**.

   Rationale - Currently, there are three research and training centers in the area of deafness. All three need to continue to receive funding as they meet specific needs related to low functioning deaf persons. The aforementioned at Northern Illinois University most specifically addresses these issues. The mental health needs of low functioning deaf and the vocational, social skill and independent living skills of persons who are deaf and hard of hearing are equally as important and studied at the University of California and the University of Arkansas programs, respectively.

3. Individuals who are low functioning and deaf need to be **eligible** for and able to get supported employment services. I feel strongly that supported employment affords great possibilities for services to low functioning deaf individuals.

   Rationale - Under the present definition, unless they are also eligible for ongoing support due to additional handicapping conditions of developmental disabilities or mental illness, these individuals will not be eligible for supported employment. As there are very few deaf individuals receiving supported employment services this clearly demonstrates a need for their eligibility to participate in this program.

4. Development of **pre- and in-service training** programs.

   Rationale - As service programs will become available for this population, there is a need for very specialized personnel. The interpreter training programs do not specifically address minimal language skill or low functioning deaf individuals and the existing rehabilitation counselor training programs in the area of deafness are limited in the number of individuals to whom they can provide training.

Individuals from these programs are able to meet some of the needs of this population but there is a critical shortage of trained rehabilitation personnel who are also able to meet the needs of low functioning deaf persons. Additionally, there will be a need to cross-train other professionals.

5. There is a strong need for a **cooperative agreement** between **special education and rehabilitation.**

Rationale - The continued emphasis on mainstream education has caused a very serious deterioration and fragmentation of transition from special education to rehabilitation services. Quite often the special education programs may be aware of rehabilitation but not of the more specialized services for individuals who are deaf or hard of hearing. Frequently the counselor for the deaf will not be in the same geographic area, especially in the more rural areas of a State. Therefore, there is a greater possibility that individuals would "fall through the crack" and not receive services to assist them to become productive and taxpaying citizens.

Closing

With so much change taking place in the education of deaf children, namely the trend toward educating them at home in local programs where the resources may be highly inadequate, as opposed to the state residential school with specialized resources, I feel that more and more deaf children will emerge who are poorly prepared to get the training they need to enter the world of work. We, in the rehabilitation field, must be prepared to provide appropriate services to this group.

With appropriate intervention and provision of rehabilitation service, persons who are low functioning and deaf can be successful and productive citizens. We have proven many times that it is possible to work successfully with this group. They become productive, contributing, taxpaying citizens and stop a dependent role.

At GSRC, we have been fortunate to work with a young man who is employed with a major copying machine company repairing their machines. These machines are valued in the hundreds of thousands of dollars and he has been able to work out a codified paging system to learn to report from one area to the next to repair the machines. He is a low functioning deaf individual but

was fortunate to have loving nurturing parents who fought for an appropriate education and then to see that he received rehabilitation and other services necessary for him to become employed. He is married and has two children, lives in an apartment, pays taxes and borrows money from the bank. He is successful.

In closing I would like to quote from a letter I received from a young deaf woman in Houston, Texas who is a former client of mine. It is in her own language.

> "Dear Steve How are you doing for you do? I am doing for you are fine.
>
> I am hoped that you are fine. ... I am get married on September 14, 1991. Before Mike and me moved in Houston in June 2, 1991. Yes. I am have for Mike's mobile home. ... I am feeding three cats and one dog. One dog name Cinnamon is girl. Ok. Cinnamon is friend kitten boy tan all face brown. My cats Kitty and black cat is girls. She watch only mice my mobile home seven mice. Because she kill four mice! I work every day clean school. I like my work. hard. Money at end of month. Mike and me go to Houston church... and we go to bowling... all deaf people. We are fun time! I am ok for you!"

A great letter from a woman who was kept in a mobile home because her family did not want to deal with her and thought she was too deaf and too mentally retarded ever to be a contributing member of society.

Chairman OWENS. Thank you.

I understand you had quite a problem getting here, Mr. Moore. We're glad you made it. Welcome. You may proceed.

Mr. MOORE. I'm looking for my voice interpreter. I am going to ask my interpreter to voice for me as I sign my presentation.

First, I would like to thank the chairperson of the subcommittee, Mr. Major Owens, for inviting me to attend this committee hearing related to diverse populations within the deaf community and with respect to research in deaf education.

Secondly, I would like to introduce myself. My name is Carl M. Moore, and I'm currently working as a career development counselor at the National Technical Institute for the Deaf, one of eight colleges at the Rochester Institute of Technology. I have been there for 3 years and 6 months.

However, I am not here representing NTID; I am here representing the National Black Deaf Advocates, an organization of which I am president. At this moment, we have approximately 456 members, and we also have 13 chapters throughout the U.S.

Before I go on with this report of March 10, 1992, I would like you to know that I have reviewed my previous report of January 17, 1992, to the subcommittee, and I have made a few corrections. Plus, a follow-up report from the Windy City Chapter of the BDA is attached for your information.

The main issue that I would like to address, as president of NBDA, is our concern for the education of minority deaf children, particularly those who are black and deaf. Also, with regard to the reauthorization of the Education of the Deaf Act, at this moment we do not have any formal issues and/or concerns within NBDA except for two areas related to employment and education.

In response to recommendation number 25 on affirmative action, from the book entitled, "Toward Equality: Education of the Deaf," 1988, it stated that Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Programs for the Deaf should continue to strengthen the positive efforts they have already made in recruiting, hiring, and promoting qualified applicants and employees who are deaf.

On May 18, 1990, when Dr. I. King Jordan, president of Gallaudet University, came to Rochester, New York, to attend a function of that chapter's Gallaudet University Alumni Association, there was an opportunity to ask questions about Gallaudet. As you see in the attached article number one, I asked two questions of him.

The first question was: Is Gallaudet responsible for both MSSD and KDES, or are they independent from Gallaudet? My second question was: Why did Gallaudet hire a minority deaf recruiter to recruit outside minority deaf students throughout the country, while Gallaudet already has its problem of recruiting minority deaf students from MSSD and KDES for many years?

His response to my first question was easy: "Yes, Gallaudet is responsible for both MSSD and KDES." His response to my second question was not as easy. It went something like, "Well, I promise, and I will do my best to look into it." As of January 17, 1992, I was still curious for the answer to the second question.

Not too long ago, the Washington, DC BDA Chapter, the DCBDA, took an action against Gallaudet University about unfair hiring

practices with respect to a minority deaf applicant. Somehow Gallaudet resolved it by meeting with a few members of the DCBDA Chapter. This minority deaf applicant is currently employed at Gallaudet as a recruiter.

Lindsay Dunn, who is a member from the New York Chapter of Black Deaf Advocates, NYBDA, recently moved to Mississippi for better employment at the Mississippi School for the Deaf. Liz Aviles of Deaf Pride, in Washington, DC, who happens to be my sister, and Al Couthen, who also recently moved for better employment at the Mississippi School for the Deaf, are DCBDA members who shared their experiences of discrimination by other deaf people at Gallaudet relating to education and employment.

Please see the attached article number two from March 1991.

Just this past summer, August 1991, at the National BDA Conference in Chicago, the Windy City Chapter took a petition for its minority deaf member who was replaced by a woman who was not deaf. She had recently completed her studies for the position of counselor, and her signing skills were inadequate. Last night, their chapter representative faxed me a copy of their current situation. Please see attached article number three about this particular situation.

At NTID/RIT, speaking as president of NBDA and a member of the Affirmative Action Ad Hoc Committee of NTID, I recently shared with one of the NTID executive directors how I was disappointed that the NBDA network list apparently was not being used effectively by some of our job search committee chairpersons and the hiring managers.

For your information, out of approximately 82 deaf employees at NTID/RIT, only five of us are minority deaf employees. Isn't that great? However, recently, I did participate with others in filling out a form for our subcommittee of the Affirmative Action Advisory Committee about what to do to improve our current situation at NTID by adding NBDA's network system to their mailing list.

As a result of this, what I am saying is that we, members of NBDA, still experience problems relating to employment and education. Therefore, I would like to correct our recommendations at this time, because I just realized that the Commission on Education of the Deaf completed its work in 1988 and no longer exists.

So, on behalf of the NBDA, to your committee, we recommend: Number one, that a scholarship program be established to recruit minority students, particularly from Historically Black Colleges and other minority institutions of higher education, for graduate training in the area of education of deaf students.

Recommendation number two is that Gallaudet University and the National Technical Institute for the Deaf should try harder to locate, hire, and promote qualified applicants and employees who are minority and/or deaf.

Recommendation number three: To encourage and provide funding for research addressing the educational needs of black deaf students.

Recommendation number four: Encourage and provide funding for the establishment of model demonstration programs for minority deaf students. These programs would serve as exemplary programs and resource centers for demonstrating effective approaches

for the education of minority deaf students. These demonstration programs should include, in addition to MSSD, other potential programs in selected sites throughout the U.S.

From the book called, "Educating the Deaf," Third Edition, 1987, according to information provided by the Gallaudet University Center for Assessment and Demographic Studies, which conducts an annual survey of hearing-impaired children and youth, more than 30 percent of the deaf school-age population consists of black, Hispanic, Asian-American, and Native American children. Of these, blacks account for approximately 18 percent; Hispanics account for 10 percent; Asian-Americans for 2 percent; and Native Americans, 1 percent.

It is clear that educational programs for the deaf must focus on providing effective services to children from a wide range of cultural backgrounds, a challenge complicated by an underrepresentation of minorities among teachers of the deaf.

Recommendation number five: The article by Cohen, Fischgrund, and Redding from the American Annals of the Deaf includes several other possible recommendations which we should use. For instance, helping deaf children become aware of the ethnic and cultural differences between themselves and deaf persons of other ethnic groups or between themselves and hearing members of their own ethnic groups. This is an important factor in their education, development, and survival.

Intent on teaching reading, writing, and communication skills to deaf children, educators and parents have tended to overlook the teaching of and/or exposure to cultural and ethnic experiences and values. These experiences often occur incidentally for hearing children, since so much of our culture, art, and heritage are naturally transmitted through records, movies, plays, television, religious organizations, and other institutions which rely primarily on linguistic and auditory curricula, which must be assessed and resources made available.

Minority staff recruitment must be aggressively pursued, intake and placement procedures reviewed, parent and home relations analyzed and revamped, and a spirit developed which focuses on the strengths of ethnic and multicultural deaf children and their families.

Last, I hope that I will hear from you, and I thank you for the consideration that you have given me today.

[The prepared statement of Carl M. Moore follows:]

Carl M. Moore, President
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One Lomb Memorial Drive
Rochester, NY 14623-0887

March 10, 1992

Committee On Education And Labor
U.S. House Of Representatives
518 House Annex 1
Washington, DC 20515-6107

Dear Subcommittee On Select Education:

First, I want to thank Chairperson, Major R. Owens, again for invitation to this committee regarding to diverse populations within deaf community and research in deaf education.

Second, please allow me to introduce myself. My name is Carl M. Moore. I am presently working as Career Development Counselor at the National Technical Institute for the Deaf (NTID), one of eight colleges of the Rochester of Institute of Technology (RIT) for 3 years and 6 months. However, I am not here to represent NTID. I am here as president and to represent the National Black Deaf Advocates (NBDA). At this moment, we have about 456 members, and we also have 13 chapters throughout United States of America (U.S.A.).

Before I go on with this report of March 10, 1992, I want you to know that I have reviewed my previous report of January 17, 1992 to the subcommittee, and I have made a few correction, plus a follow-up attached report from the Windy City (Chicago) BDA Chapter for your information.

Now, the main issue I will address, as President of NBDA, is our primarily concern of the education of minority deaf children, particularly those who are Black and Deaf.

Also, in regarding to the reauthorization the Education of the Deaf Act (EDA), at this moment, we do not have any formal issues and/or concerns within NBDA, except for two areas of employment and education.

In response to Recommendation #25 on Affirmative Action from the book called, "Toward Equality: Education of the Deaf, 1988," it stated Gallaudet University, the National Technical Institute for the Deaf, and the Regional Postsecondary Education Programs for the Deaf should continue to strengthen the positive efforts they have already made in recruiting, hiring, and promoting qualified applicants and employees who are deaf.

On May 18, 1990, when Dr. I. King Jordan, President of Gallaudet University (GU), came to Rochester (New York)'s chapter of Gallaudet University Alumni Association (GUAA) for his honor reception, there was an opportunity to ask him questions about GU.

As you see in attached article #1, I asked him two questions. One I asked was, "Is Gally responsible for both MSSD and KDES, or are they independent from Gally. Second question was why did Gally hire minority deaf recruiter to recruiting

outside minority deaf students throughout country while Gally already has its problem of recruting minority deaf students from MSSD and KDES for many years. His respond to first question was easy, "Yes, that Gally is responsible for both MSSD and KDES." And, he respond to second question wasn't easy as I recalled sort of like this," Well, I promise, and I will do my best to look into it " As of this date of January 17, 1992, I am still curious for the answer to the second question.

Not too long ago, Washinton (DC) BDA Chapter (DCBDA) took an action against Gallaudet University (GU) about unfairly hiring practice to the minority deaf applicant. Somehow, Gallaudet University resolved it by meeting with a few members of this DCBDA chapter. This minority deaf applicant is currently employed at GU as a recruiter. Lindsay Dunn, member from New York Chapter of Black Deaf Advocates (NYBDA), recently moved to Mississippi for a better employment at the Mississippi School for the Deaf. Liz Aviles of Deafpride in Washington, DC, who apts to be my sister, and Al Couthen, who also recently moved for a better employment at the Mississippi School for the Deaf, are DCBD members shared their experience of discrimination by other deaf people at GU relating to education and employment. Please see the attached article #2 on March 1991.

Just past summer, August of 1991 at the NBDA Conference, Windy City (Chicago) Chapter of Black Deaf Advocates (WCCBDA) took the petition for its minority deaf member who was replaced by a woman who is not deaf, just recently completed her sudies for the position of counselor and whose signing skills are inadequate. Last night, their chapter representative just me a fax copy of their current situation. Please see attached article #3 about this particular situation .

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Recommendation #1
Establish a scholarship program to recruit minority students, particularly from historically Black Colleges and other minority institutions of higher education for graduate training in the area of education of deaf students.

Recommendation #2
Gallaudet University (GU) and the National Technical Institution for the Deaf (NTID) should try harder to locate, hire and promote qualified applicants and employees who are minority and/or deaf.

Recommendation #3
Encourage and provide funding for research addressing the educational needs of black deaf students.

Recommendation #4
Encourage and provide funding for the establishment of model demonstration programs for minority deaf students. These programs would serve as exeplary programs and resource centers for demonstrating effective approaches for the education of minority deaf students. These demonstratin programs should include, in addition to MSSD, other potential programs in selected sites throughout the U.S.

From the book called, Educating The Deaf, Third Edition, 1987, according to information provided by the Gallaudet University Center for Assessment and Demographic Studies, which conducts an annual survey of hearing-impaired children and youth, more than 30 percent of the deaf school-age population consists of Black, Hispanic, Asian-American, and Naive American children. Of these, Blacks accounts for approximately 18 percent, Hispanic for 10 percent, Asian-Americans for 2 percent, and Naive Americans for 1 percent. It is clear that educational programs for the deaf must focus on providing effective services to children from wide range of cultural backgrounds, a challenge complicated by an underrepresentation of minorities among teachers of the deaf.

Recommendation #5
There article by Cohen, Fischgrund, and Redding in the American Annals of the deaf includes several other possible reccommendations which we should use. For instance;

Helping deaf children become aware of the ethnic and cultura differences between themselves and deaf persons of other ethnic groups or between themselves and hearing members of their own ethnic group is an important factor in their education, development and survival. Intent on teaching reading, writing and communication skills to deaf children, educatiors and parents have tended to overlook the teaching of, and/or exposure to, cultural and ethnic experiences and values. Thes experiences often occur incidentally for hearing children, since somuch of our culture, arts, and heritage are naturally transmitted through records, movies, plays, television, religious organizations and other institutions that rely primarily on linguistic and auditory ricula must be assessed, resources made available, minorty stafff recruitment aggressively pursued, intake and placement proceudures revieved, parents and home relations analyzed and revamped, and a spirit developed which focuses on the strengths of ethnic and multi-cultural deaf children and their families.

Last, I hope that I will hear from you, and I thank you for all consideration given.

Respectfully yours,

Carl M. Moore, NBDA President
cc: Board of Directors
file

NATIONAL

Dr. I. King Jordan Honored at Rochester, NY Reception

by Jane Mullins

Dr. I. King Jordan, President of Gallaudet University, was honored at a reception in Rochester, New York on May 18. The reception was hosted by the Rochester Chapter of Gallaudet University Alumni Association. Master of Ceremonies was Farley Warshaw, who presented a lively program. The first part of the program consisted of Gallaudet alumni, who reminiscenced about Gallaudet during their student days. Covering the 1930's was John O'Brien, followed by Bob Panara, who talked about the 1940's. Thelma Bohli did the 1950's, while Patrick Graybill focused on the 1960's. Brenda Mowl described the 1970's, and Peggy Jennings finished up with the 1980's. It was very informative and funny "traveling through the time tunnel." Then Dr. Jordan gave the keynote speech on "The Aftershocks of 'Deaf President Now.'" Dr. Jordan gave an inspiring talk, describing the exciting events of DPN and talking about what is ahead for deaf people in the future. After his speech, Dr. Jordan answered a variety of questions, such as what is happening on the Gallaudet campus and does he support on sign language method over another. His response was that we should avoid labels, and focus on being able to communicate with one another. After the question-and-answer session, Dr. Jordan was presented with a gift from the Rochester Deaf Community. This was a sweatshirt that has Rochester, NY on the map. Dr. Jordan said it was perfect for his daily run the next morning! Dr. Jordan then met with the audience, and refreshments were served. The Rochester Deaf community thoroughly enjoyed Dr. Jordan's visit. The reception was planned by Bernie Horwitz (Chairperson), Steven DeBotus, Sam Holcomb, Jane Mullins, and Farley Warshaw.

During the question and answer session, Carl Moore asked a question about the black students' enrollment at Gallaudet University.

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Article #2

SILENT NEWS - MARCH 1991

NATIONAL

Members of the Boston Society for Black Deaf Persons pose with presenters at the Kick-Off for Deaf Awareness Week
From left
Kneeling: Gerald Carries, Albert Couthen
Standing: Lindsay Dunn, James Damas, Elizabeth Aviles, Leslie Cox, David Steele
(Photo by Brenda Schertz)

Advocacy Group for Black Deaf in Boston Area

The Boston Society for Black Deaf Persons (BSBDP) is a newly-formed advocacy group in the Greater Boston area. This group was established in September 1989. Prior to that time, there was no grass roots minority advocacy organization there. James Damas, Leslie Cox, and Gerald Carries founded the group beca hey were determined to bring minor deaf persons together. Their dreams are coming true. The group's first major event was very successful. Approximately 150 people joined the BSBDP in its Kick-Off for Deaf Awareness Week, September 22, 1990, at Bentley College in Waltham.

Al Couthen of the Kendall Demonstration Elementary School at Gallaudet University has told the group that progress has been slow in ending discrimination against black deaf people by other deaf people. In education, there is still a lack of equal opportunity for black deaf children. He said that he knows of very bright black deaf children placed in lower level reading classes in schools merely because of stereotypes which continue.

Elizabeth Aviles of DEAF Pride, Washington, D.C., has made presentations in the Boston area several times, including at this Kick-Off event. She shared her empowering experience at Gallaudet University when she challenged the the fact that there has always been a low minority enrollment at Gallaudet. She also encouraged black deaf people to write letters to the university administration. Her efforts have paid off, and the Admissions Office hired a black deaf woman as a recruiter. Ms. Aviles is proud of the changes her efforts helped to bring about.

Lindsay Dunn, a black South African, who spoke at the Kick-Off and will be speaking again at the Boston Public Library's 4th Annual Black Heritage Day on February 28, has reported to the group what he went through to get an education. In south Africa he was being trained as a tailor. In the U.S., he was able to attend Gallaudet and is now president of the New York City Chapter of the Black Deaf Advocates and a counselor at Lehman College.

Dunn feels very strongly about the continuing need for equal education for black deaf students.

The BSBDP's activities highlight the sense of frustration experienced by the black deaf community.

The BSBDP has had a strong start and is looking forward to growing and becoming an effective advocate for minority needs within the Deaf Community. The group holds monthly meetings at DEAF, Inc., in Allston.

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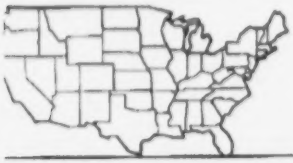

Article #3

CHAPTER NEWS

TWO WINDY CITY BDA TEACHERS FIGHT FOR FAIR EMPLOYMENT PRACTICES AND FOR DEAF RIGHTS

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ROTESTS CONTINUE WHILE MPROVEMENTS START AT WYNS

coalition of five advocacy groups d a complaint with the U.S. Office of l Rights, arguing that practices in the ring impaired program at Whitney ng Magnet High School violates fed- and state special education regula- s and deprives students of their right n appropriate education.

he coalition, consisting of Black Deaf ocates, Access Living, Illinois Fiesta cative, the National Association of Deaf Legal Defense Fund and thwestern University Legal Clinic, ested the administration's removal of af counselor from the hearing im- ed program. The complaint pointed that children need a counselor with m they can communicate without an rpreter. Furthermore, hearing im- ed children need counselors specifi- y trained in solving problems foreign earing children, including assistance h acceptance of being hearing im- red in an overtly speech intensive ld and finding practical responses to rimination. The coalition also ob- ed to inadequate service provided to lents who are both hearing impaired mentally handicapped. The school's nt decision to integrate mentally han- apped and non-handicapped Deaf lents in academic classes included no additional in-class support to meet the needs of the handicapped students. Out-of-class services, such as learning disability tutoring, have also been drastically cut.

The legal clinic protested the administration's failure to obtain parental consent before mainstreaming these students, as specified in the regulations.

In what could be construed as an illustration of the lack of support for hearing impaired students, the school removed sign language interpreters from gym classes for sophomores, juniors and seniors. Denial of an interpreter precludes full participation for non-hearing students.

Finally, the complaint protested that the hearing impaired program provides insufficient vocational training. A hearing impairment makes it more difficult for these students to enter the work force than their hearing counterparts.

In a personal meeting with the associate superintendent of special education, Dr. Thomas Hehir and Eileen Andrews, coordinator of hearing impaired programs at the Board, the coalition objected to class assignments which are not in students' best interests such as assigning advanced level math classes to a substitute teacher. The coalition also insisted the school should provide an interpreter for Local School Council (LSC) meetings to hearing impaired staff may attend.

A petition of 167 Deaf students and 49 parents agreed with the coalition's complaint about the removal of the counselor from the Deaf program.

In addition, the Illinois State Board of Education Special Education Monitoring Unit audited the school's special education program because the school was out of compliance with state laws requiring annual updates of individualized education plans (IEPs).

Selected staff members in the hearing impaired program and members of the Black Deaf Advocates feel there has been a positive board response from these protests. TMH and EMH children have been removed from high school level academic classes where they were placed in violation of their IEPs. Teachers in the hearing impaired program objected because they were given no support for teaching these students. These children's IEPs declare that they would learn best in a self-contained classroom appropriate to their needs. They still lack a teacher who is certified in special education.

One Learning Disabilities (LD) teacher joined the hearing impaired program which assists students who require LD resource help. The case load of students whose IEPs require this could support the assignment of additional LD teachers.

According to Black Deaf Advocates, Dr. Hehir is committed to opening a position of counselor for the Deaf by January, 1992. He also agreed to arrange for an interpreter at future LSC meetings at Whitney Young and to audit the hearing impaired program. To assist hearing impaired students in the elementary schools, Dr. Hehir has agreed to recruit qualified Deaf education professionals for employment in elementary schools.

Chairman OWENS. Thank you.

Since you're last, Mr. Moore, why don't I begin with questions for you. Is there a model program for the education of minority deaf individuals already in existence? Is there a program which is close to being the kind of model you want? Why does everybody go to the Mississippi School for the Deaf; is that some special place? All the people seeking better employment seem to go there.

Mr. MOORE. I'm not sure. As of this moment, it would seem that there is a better environment; that people go for better employment because of, apparently, a Gary Olsen, who is the superintendent of the Mississippi School for the Deaf, who understands the needs and also is sensitive to minority deaf children's needs. So he and the school are working very hard to recruit and hire minority deaf professionals so that the minority deaf children in the school will have role models.

Is Mississippi School for the Deaf the best model? That I don't know as of this moment. This would be good to analyze and compare with other schools for the deaf.

Chairman OWENS. Do you think that the Commission on the Deaf addressed these questions sufficiently that you're raising about the education of minority deaf students?

Mr. MOORE. No. I would like to see more study done which focuses specifically on minority deaf children at the postsecondary level, in postsecondary programs.

Chairman OWENS. Mr. Ramos, the ranking member of the Education and Labor Committee, Mr. Goodling, was here earlier, and he wanted me to ask you a question.

You have in your testimony a statement, and you mentioned it orally: "If you were to come to Dallas, Texas, you would find three high schools with mainstream programs for the deaf and hard-of-hearing: one is predominantly Anglo, one is predominantly Hispanic, and the other predominantly African-American. Most, if not all, of the deaf students at the Anglo school graduate and continue on to obtain a postsecondary education. Almost none of the graduates of the Hispanic or African-American schools do so, almost none. Why?"

Mr. Goodling wanted me to ask you, are all three of these schools in the same Dallas school district, and, if so, how can they legally be segregated in this manner?

Mr. RAMOS. Students are supposed to go to the schools near where they live. Richardson High School is located in a very well-to-do area. A lot of the Anglo families move to Richardson so that their children can go to that school. The Hispanic parents, the African-American parents can't afford to move to Richardson. That is why that condition exists. It's not only with deaf people, but with hearing people also.

Let me add something to what Carl Moore said before in response to the question about which is the best role model for minority deaf children today. Of all the schools that I know, I would say that Lexington School for the Deaf in New York is doing a better job of educating minority deaf children.

Chairman OWENS. Lexington School in New York?

Mr. RAMOS. Lexington School for the Deaf in New York, your hometown.

Chairman OWENS. I repeated that because I want it on the record.

Mr. RAMOS. Oscar Cohen is doing a great job.

Chairman OWENS. Do they have at Lexington School the kind of program that you mentioned in your testimony? You seem to think that after-school programs to compensate or supplement mainstream programs are necessary. Does Lexington help provide that kind of thing? Do they exist in any area of the country where we could see them as models?

Mr. RAMOS. I can't answer that question. But I do know that Oscar Cohen is making a big effort, in terms of parent education, in terms of hiring people who are minorities to work at the school. So for those two areas they're doing a great job. After-school programs, I don't know. You can ask Oscar.

Chairman OWENS. Thank you.

Mr. MacDonald, do you have any figures on approximately how many deaf-blind people there are in the country?

Mr. MACDONALD. Estimates on the total population vary widely. At least 16,000 are known and on registers. Most people estimate between 25,000 and 40,000 people; however, many of these are not actually legally blind at this time. Usher's syndrome takes a while for a person to be totally blind. What I'm talking about is the total number of people alive right now who will probably be deaf-blind during their lifetime.

Chairman OWENS. Thank you.

Ms. Johnson, many of the recommendations that you made seem to be basic and fundamental. Why are they not already being implemented?

Ms. JOHNSON. We have a number of university programs that have deaf education training for teachers, but we do not have the focus at the university level on this population. It would seem a logical thing that it should be, but we do not have at university—we have some universities, for example, Gallaudet, which have training in deaf students with multiple disabilities.

Yes, there are some training programs where they do train teachers to work with the deaf, multiply-disabled students, but these programs are for the severely or profoundly involved. The other teacher training programs are not addressing that need. So we may have two or three programs, nationally, where the deaf-ed program does have a specialization in the area of multiple disability, but this does not train all of the teachers needed in all of the school programs around the country.

Did I answer your question?

Chairman OWENS. Partially.

Mr. Sligar, would you care to comment on the same question, in terms of what else we need to do to institutionalize these approaches? Do you think the Commission on Education of the Deaf dealt with the problem sufficiently? Where do we need to go in terms of these very special populations?

Mr. SLIGAR. I think they scratched the surface

Chairman OWENS. The Commission scratched the surface?

Mr. SLIGAR. I think the Commission scratched the surface or raised the issue; I don't think they answered all the questions. In regard to preservice training of teachers, I'll use an example in

Georgia. At Georgia State University, they have a deaf education program. Sign language is an optional course in the program. There are no courses directed at additional handicapping conditions for someone to graduate and be certified as a deaf education teacher.

So we have teachers who are being certified, meet the State requirements, hired by small rural counties in Georgia to provide services to multiply handicapped deaf children. You've got a deaf child with a very limited vocabulary coming in, the school feels that they're meeting the needs of that child by hiring a specialist in deafness who may or may not have a strong language background, and you're trying to educate this person in order to bring their skills up to being able to benefit from an interpreter hopefully in 6, 7, or 8 years.

There's a problem there. We see that frequently. In rehabilitation, what I see mostly are the failures of that system. They have gone into the small counties. I see it in Atlanta, in small counties. I saw it in Texas and other places in the country.

Another example, Atlanta is made up of several counties. One county has the Atlanta Area School for the Deaf. If you reside in that county and go to that school, you get a good, appropriate education. The county right next to it, Fulton County, which is the main county in Atlanta, has deaf children integrated and mainstreamed in regular special education programs who have noncertified interpreters, hiring graduates from that university program, guaranteeing us a rehabilitation job supply.

I hope I have addressed the question.

Chairman OWENS. Yes, thank you.

Mr. Ballenger.

Mr. BALLENGER. Thank you, Mr. Chairman.

I would like to ask Mr. MacDonald, if I may, at what period in your life did you lose your hearing and your sight?

Mr. MACDONALD. My parents first found out that I was legally blind when I was three. I started having hearing difficulty at age 10. I was hard-of-hearing for many years, but by the time I was a sophomore in high school I could no longer hear class discussion, and I've been profoundly deaf for about 25 years now.

Mr. BALLENGER. If I might ask the interpreter that is signing to you right now, does she have the same sort of training? We're talking about teacher training, and obviously here's an individual who has a completely—looks like a completely different education necessary. Could she say where she got her training, and is it different than the standard teaching for the deaf?

Mr. MACDONALD. I will answer that, since it is difficult for an interpreter to be both a participant and an interpreter at the same time. My interpreter at the moment is my wife. She has been a social worker, a rehabilitation counselor, is currently an administrator of a program serving deaf-blind people. She worked with deaf people before she worked with deaf-blind people. She learned on the job, actually.

What she is doing is the same manual alphabet that deaf people use, except that I follow it by touch. That is one reason why deaf people have a lot to offer deaf-blind people. They can communicate.

The same manual alphabet is there, and many deaf-blind people use sign language also.

Mr. BALLENGER. Thank you, sir.

Mr. Chairman, I'd like to pass on to you that a senior member of the minority side of the committee also said that he would be interested in creating a scholarship program for deaf education and training for minorities in either the Higher Education Act or the Deaf Education Act. I just thought I'd pass that on to you and let you know that this is the senior member—he ranks substantially higher than I do on this committee.

Chairman OWENS. The ranking member of the Education and Labor Committee, Mr. Goodling, supports creating a scholarship program for minorities to go into deaf education and training, either in the Higher Education Act or the Deaf Education Act. I think we want to have that on the record.

Mr. BALLENGER. Right. That's very good, sir.

Chairman OWENS. Thank you, Mr. Ballenger.

Mr. Ramos, I would like to ask, since they have three separate deaf education schools in Dallas, are they considered equal, separate but equal? Let's put it that way and be blunt.

Mr. RAMOS. Supposed to be. Supposed to be.

If you will allow to make one comment about your recent recommendation. You said a scholarship for minority people. Let me recommend very strongly that you say a scholarship for minority deaf people. There are many minorities in deaf education, and people think there's no problem because we have African-Americans, we have Hispanics working in the school system. But that completely overlooks the problem. We're not talking about hearing people; we're talking about deaf people. So if you could add the word "deaf," that would say scholarships for minority deaf people, we would greatly appreciate it.

Mr. BALLENGER. I think we understand.

You mentioned vouchers, and we have in this committee discussed the President's program, America 2000, that had—I think when you use vouchers, you automatically bring into the discussion the word "choice" and the ability to use the vouchers and go to school where you would like.

Am I misinterpreting what you're saying?

Mr. RAMOS. Yes, you understood me correctly.

Mr. BALLENGER. I understood you; yes, sir.

I'd like to ask Mr. Sligar, if I may, you say in Dallas they already have three special classes. In North Carolina, we also try to mainstream. In addition, we have a college in my hometown, Lenoir-Rhyne College, that trains students to teach.

Is it possible to get an equal education if you are mainstreamed? Does that teacher follow you in every class, or how does that work? I am not familiar with that.

Mr. SLIGAR. It varies from school to school, depending on the number of teachers. I have known some deaf students that have had the same teacher for 6 or 7 years, following them from grade to grade. In other schools, they would change from teacher to teacher with the classes, using an interpreter or with signing teachers. So there's a whole spectrum possible.

Mr. BALLENGER. How does mainstreaming itself appear to work as compared to a special class or a special school?

Mr. SLIGAR. For some students, it works real well when they get the right support. For some students, it's better to have concentrated services in one school, like a State school for the deaf. It varies. There's not one answer. It's multifaceted.

Mr. BALLENGER. Right. I would like to ask both Mr. Moore and Mr. Ramos a question. They both mentioned Gallaudet, and I think they might have been involved at one time or another there. Is it better now that the president is a deaf person than it was before that?

Mr. MOORE. I would say, yes, it is better now by having a deaf president. During the "Deaf President Now" movement, the world got exposure to deafness, and it helped empower deaf people, deaf children and deaf adults, to look up to the Gallaudet president. Yes, that was very helpful.

Mr. RAMOS. I'm laughing because I agree with everything Carl said, that, yes, it's much better now for the deaf community. I'm here as a representative of the Hispanic community, and as a spokesperson for the Spanish community, I would say no. There are still no deaf minority people on the faculty or at the administrative level. So, in that respect, no, there has been no change.

Again, I don't mean to criticize Gallaudet. Gallaudet can only hire the people who are qualified, and the pool of qualified deaf minorities is not there. So it's like a Catch-22 situation. I'm sure Gallaudet wants to hire deaf minorities, but where are they?

Mr. MOORE. I also would like to add a comment that Dr. Glen Anderson, who is a professor at the University of Arkansas, is a black deaf professional, and he serves on the Gallaudet University Board of Trustees. That has also been very helpful as an exposure to black deaf America. He is also a committee representative to the National Black Deaf Advocate Board.

Mr. BALLENGER. I'd like to ask Mr. Sligar one more question. The school systems in Georgia evidently are run on a county basis. It sounded like you had one county with an excellent education system for the deaf and the next door county had a not-so-hot education for the deaf. Are school systems run at the county level?

Mr. SLIGAR. Yes. We have the State department of education, we have our county boards of education, city boards of education, and unincorporated boards of education.

Mr. BALLENGER. Could I ask a question about the economic strength of the area that has the good school and the area, Fulton County, that has the weaker school? I mean, you know as well as I do parents put a lot of money in some places and don't put it in others. If the parents don't have it, they can't do it.

Mr. SLIGAR. Yes. The Atlanta Area School for the Deaf is State and federally funded. The Fulton County schools are regular special education funded. As far as Atlanta goes, they're fairly comparable.

Mr. BALLENGER. In other words, they both put the same amount of money in?

Mr. SLIGAR. I don't know the budget. I don't know the exact amount of money they put into either school. The Atlanta Area

School for the Deaf contracts with the different counties to provide services for deaf children, so they have to bring more money in.

Mr. BALLENGER. Thank you, Mr. Chairman.

Chairman OWENS. Thank you.

Mr. Pastor.

Mr. PASTOR. Thank you, Mr. Chairman.

First of all, I'm going to direct a statement to Mr. Moore and Mr. Ramos. Both of you have the opinion that race-based, ethnic-based, gender-based scholarships are a vehicle to take minorities, recruit them, educate them, and employ them where they will do the best.

I have to tell you that today the U.S. Department of Education, through its Civil Rights Office, has proposed a regulation that would outlaw these types of scholarships. So I would ask you, because you're advocates not only for the deaf, blind, and minorities, that you might make it known to the Secretary of Education that these are vehicles to help, not to hinder, and they're greatly needed.

So, hopefully, all three of us can persuade the Secretary of Education that these regulations are confusing and unnecessary. It should be in the public interest of this country to do everything we can to educate our children. So, hopefully, you'll join us in trying to stop that regulation.

Let me ask a question to Mr. Moore and Mr. Ramos. I think you said in Dallas there are three schools that have excellent educational programs for the deaf: One is black, one is Hispanic, and one is Anglo. If we were to give the vouchers to these young Afro-American and Hispanic children, and they were able to go to the white school, how do you think they would feel in terms of the social pressure they would have?

Mr. RAMOS. First, I didn't say they were outstanding.

Mr. PASTOR. Okay. Well, are they better than average?

Mr. RAMOS. No, no. They are typical mainstream programs.

Mr. PASTOR. Okay.

Mr. RAMOS. Okay. But let me rephrase your question to make sure I understood it. What would be the social pressure on the minorities that went to the Anglo school?

If you had the voucher system, that school would no longer be Anglo. I can guarantee that a lot of those parents would send their Hispanic and African-American children to the Anglo school in Richardson. Either that would happen or the school in the Hispanic area and African-American area would improve their education, because they would not want to lose those children to the other Anglo school.

In the case of the situation in El Paso where the parents have been fighting for 4 years to get an interpreter, all the parent would have to do is just take out her child, put her in another school, and give that school the money. That would give the parents a lot of power in getting what they want. I really support that voucher system.

Mr. PASTOR. Because the voucher system is something that is still being discussed, what would be your other recommendation to ensure that that schools—mainstream schools in the Hispanic area and in the Afro-American neighborhood—also get equal resources?

Mr. RAMOS. A watchdog. I mean, let's face it, the legal system takes years and years and years before a decision is made, and by the time a decision is made the student has graduated. The damage has been done, and the issue is moot.

Mr. PASTOR. One theme that I heard all of you say is that there is a lack of teacher preparation. I have read in someone's testimony that says there are three research training centers in the area of deafness and they need to continue funding. Could these three areas be magnet schools to provide teacher training, not only in—well, let's say—in-service training?

Mr. SLIGAR. That was my testimony. Part of their mission and function is to provide in-service training. They are primarily directed toward rehabilitation personnel and have not been directed more toward education and teacher preparation, professionals in that area. Their mission could be expanded to include that, I'm sure, but that would also involve increased funding for them to be able to do that.

Mr. PASTOR. Well, let me ask the question: Are there some universities or colleges that you think do an effective job in teacher training, in-service training, so that we can maybe devise a program, magnet schools again, so that the multihandicapped, hearing-impaired, or the deaf-blind children can get better teachers? Any opinions?

Mr. RAMOS. I like that idea. I believe Gallaudet University would be one of the first places to start. But wherever you start, make sure that deaf minorities are involved with the program; otherwise, it will not be successful.

Mr. PASTOR. I guess my question is—and I think Dr. Johnson alluded to it—that one of the problems for the lack of in-service training is that we don't have enough universities or training centers throughout the United States. Now, that should be the goal for all of us. But, in the interim, can we devise a program, for example, where a teacher from California can go to a school in the West where he or she would receive in-service training that would make that individual a better teacher for the deaf and the blind?

Ms. JOHNSON. Yes. We need to, first of all, identify those programs where they have teacher training programs for multihandicapped deaf students, university programs. One thing we have to be careful about is that, if we have a teacher training program in the area of multiple disabilities and deafness, we need to have a large enough deaf population, a population of deaf children with additional handicapping conditions so that the teachers in training can see instructional strategies and the curriculum in use with different populations.

In other words, you have to look at the demographics. You want to have large numbers—you need large numbers of children so that you can have different types of classrooms. And it's entirely possible that such university settings could be used for both pre-service and in-service. But the important thing is, you need the numbers of kids so that you really get the full range of disabilities.

A lot of the university programs focus on a very narrow range of kids. They'll take the higher functioning kids, or they'll take just the deaf-blind kids. They tend to eliminate—they tend to establish criteria which eliminates a lot of the kids.

So we need to think in terms of numbers so that we can get the full range of disabilities.

Mr. PASTOR. In your experience, do we have, in the United States, what population?

Ms. JOHNSON. I don't understand the question. I'm sorry.

Mr. PASTOR. Okay.

Mr. MACDONALD. Insofar as in-service training is concerned, when it applies to deaf-blind children, the big problem right now is that very few States want to fund training out of State. The University of Tennessee used to have a program that specialized in this, but I don't think it is operational anymore. The best place for in-service training for teachers to work with deaf-blind children would probably be the Perkins School for the Blind in Massachusetts.

But, again, very few States want to send people out of State for training.

Mr. PASTOR. What I was asking is that in preparation for teacher training, you would need to have a population of students so that the in-service training would be of greater benefit. My question is, have you identified, as a consultant, cities that would meet that criteria and also has a university that would provide proper in-service training?

Ms. JOHNSON. I have not identified specific universities. I can do that and let your office know or submit it for the record. I would say that, as you probably know, the major population centers of the United States have large populations of deaf children with additional disabilities, and those cities, San Francisco, Chicago, New York, could support—if they don't already have a university program—such a program.

Mr. BALLENGER. Would the gentleman yield?

Mr. PASTOR. Yes.

Mr. BALLENGER. We mentioned Lenoir-Rhyne College where we're going to have a hearing next week, and the reason for the existence of the deaf program there is the North Carolina School for the Deaf, which is 15 miles away. It has been since the late 1890's that that school has operated, and I guess the college just decided that they'd have a special program along those lines. And I hope it's good. I hear that it is.

Mr. RAMOS. Let me add that Lamar University in Texas received a grant to train Hispanic people to become teachers. So that was one other possibility.

Mr. SLIGAR. Representative Ballenger, the program in North Carolina you referred to is part of the postsecondary education consortium that is funded out of the University of Tennessee. They have two programs on that campus. One is a program for postsecondary education of deaf students to come in and access all of the different types of training that are available there.

They also have an interpreter training program, as do most of the other consortium schools within the Southeast. That's a very innovative service delivery model for the higher achieving, higher functioning deaf person to access colleges. In Georgia, it's DeKalb College. There's one in St. Petersburg. There's one in Jacksonville, Alabama. They're all throughout the Southeast, and they're all good programs. They monitor each other and provide good services.

Those programs are not accessible for the low-achieving, low-functioning deaf person even at the top end of that low-achieving spectrum to come in and try to participate in some language development, or something like that. Those courses are too high for them. So that program is not accessible.

Hence, going back to the COED recommendations for the 10 regional centers to be funded to address the needs of the low-achieving, it's almost a whole different segment of the population which is comprised primarily of minorities. I wanted to clarify that.

Thank you.

Mr. PASTOR. I have an interest in learning more about teacher training. What I would like to do, if all of you would like to submit your recommendations on what kind of program would allow teachers to go to a university or college close by and where we could provide either grants, scholarships, fellowships or whatever, so that we can increase the number of teachers who are better prepared to teach the multihandicapped deaf children, or deaf-blind, and minority children, I'd be happy to pursue what programs are available today and what we need to do to increase the in-service training programs so that our teachers are better prepared.

Thank you, Mr. Chairman.

Chairman OWENS. Thank you.

Mr. Payne.

Mr. PAYNE. Thank you, Mr. Chairman.

I'd like to thank all of the witnesses for your very expert testimony. I haven't heard anyone talk much about vocational except for Mr. Sligar, but I do feel that there is a need to educate the working public as relates to the ability for deaf people, in particular, to work.

I worked in a—sort of was a manager at a manufacturing plant where we had several deaf persons. As a matter of fact, the forklift operator was deaf, and he was excellent. We had actually no accidents in a 10-year period with the forklift driver, because everyone knew that he was deaf, so everybody made sure that they knew where the forklift was.

You'd be surprised how aware—you know, you have a red light that goes on, and you have a beeping that goes if you go in reverse, and everyone knew that Leon was coming, so they couldn't make any noise, and so it worked out perfectly. As a matter of fact, he taught everyone sign language. It wasn't structured, because he was not literate, but he could make everyone understand exactly what was on his mind.

If he wanted to borrow some money, he gave you a sad look; you knew what was coming. If he saw an attractive lady pass by, you knew that he agreed with the lady's looks. So there were a lot ways that we were able to—as a matter of fact, he talked more than anyone else, and he was really the center of the plant.

I just use that sort of in jest, because if a little education can be given to employers to hire deaf employees, we find that the work ethics, as related to this particular person, were much better, his attendance record, his punctuality, because he had so much pride in the work that he did.

I just, though, have a specific question: There was a statement by Mr. Sligar about the assessment, accurate assessment. You're

under the opinion that currently the assessment process leaves a little bit to be desired, could be improved. Could you just quickly comment on that?

Mr. SLIGAR. I'd be happy to. There are very few trained clinicians that can administer tests that are not developed for people who are deaf. That's it in a nutshell. There are maybe half a dozen.

Is that a signal to quit?

Mr. PAYNE. No.

Mr. SLIGAR. There are maybe half a dozen trained clinicians within the State of Georgia that can administer the tests that are not set up and structured to give to persons with minimal language skills, or even a very sophisticated person who has high language skills. We still don't know if the tests are appropriate or not.

Mr. PAYNE. Also, Ms. Johnson indicated that—one of your four recommendations, one was the fact that multiple disabilities, when a person has more than one, you feel there should be special attention. Could you just elaborate on that for a moment?

Ms. JOHNSON. I'm not sure I know exactly what you mean. I said something about each combination of disabilities results in a unique educational need. But would you please repeat your question?

Mr. PAYNE. Well, it said that "There is a need to develop at least one model program of systematic research and training in a highly structured university setting which will allow for the development of specialized instruction methods, materials, and curriculum." That's what I was taking out of your testimony.

Ms. JOHNSON. Yes. And, again, forgive me, but I'm still not sure where you want me to go with that.

Mr. PAYNE. Well, would you recommend that a demonstration program be established or better training for persons to detect or to work with this situation? Similar to the question I was going to ask Mr. Moore where, in his recommendations, three and four were similar, that he wanted to encourage funding research to address black deaf, and also that there be a model demonstration was his fourth recommendation.

I was just curious to know if you could do it, either one of you, what type of things would you prefer to see happen? How would you take this grant and do with it what you would like to recommend?

Ms. JOHNSON. Okay. Of course, I don't know how much money we're talking here. But if I could dream, I could dream in two different directions here.

Mr. PAYNE. Go ahead and dream. We'll dream with you.

Ms. JOHNSON. Okay. One would be a very large laboratory school or model program where we have different combinations of deaf children and youth, different ages, different combinations of disabilities, and we have a program where master teachers are working with those students. And people who are preparing to become teachers go to this center, this model school, this laboratory school, and learn from those master teachers.

At the same time, I'd like to see research going on there to validate what is being done by those master teachers. That's one possibility. Another is, to make sure that we cover all bases, to be sure that we plan instructional strategies and develop curricula for

these different groups, have different programs in different parts of the country.

We have, for example, at Gallaudet, in the Model Secondary School for the Deaf and Kendall School, some students who are multiply disabled, but they're a very high functioning, very small population. And they do train teachers there. That's fine. But who's training teachers for all of the other types of students?

So I guess, if I had my druthers, I would go for several model schools, several laboratory schools where this can be done. We need a diverse population around the country. We need to reach diverse populations around the country. And by having laboratory schools or model programs in different parts of the country, we can at least attempt to reach the majority of deaf students with multiple disabilities.

Mr. PAYNE. Thank you very much. Thank you, Mr. Chairman.

I'd just like to conclude by saying that I thought it was very significant that Senator Harkin decided to give his statement at Gallaudet University yesterday that he was leaving the Democratic race. I think that he's the type of person who has the sensitivity, and it's unfortunate that this country is not ready for a person like Senator Harkin who is sensitive and had really a lot of the old dirty word of "liberal" thoughts about helping cities, helping people with handicaps, and all that. But maybe we'll get around to that at some time.

I would like to have an opening statement included in the record.

Chairman OWENS. Without objection, the gentleman's opening statement will be entered into the record.

[The prepared statement of Hon. Donald M. Payne follows:]

STATEMENT OF HON. DONALD M. PAYNE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. Chairman, let me commend you for continuing these hearings on the Education of the Deaf Act.

I am looking forward to hearing the witnesses talk about the diversity in the deaf community, which include ethnic minorities, the deaf-blind and the people with multiple disabilities.

The Individuals with Disabilities in Education Act requires that each student with a disability requiring special education has an individualized education program (IEP).

Providing these particular students with an appropriate IEP can be a special challenge for educators. Also, we must insure that these students are not automatically labeled "low-functioning," before they are given a fair chance to fully develop their skills. I hope that our witnesses will be able to share their ideas on how we can successfully address the needs of these various communities.

Additionally, I am looking forward to hearing about what the research community can tell us about the latest developments in teaching and technology that may lead to improving the quality of education for deaf students. We must take full advantage of the latest advancements in research and technology and work to refine these advancements so that we can apply them to the classroom.

Finally, let me welcome all of our witnesses and I await their testimony.

Chairman OWENS. Does the other party want equal time?

Mr. BALLENGER. No, sir.

Chairman OWENS. We want to thank you very much for your testimony today.

Mr. BALLENGER. I'm really sorry that Senator Harkin isn't still in the race, as a Republican.

Chairman OWENS. I think things are balanced out, considering you got a number of plugs here for vouchers and choice this morning.

We want to thank you for your testimony. If there are any further comments or recommendations you'd like to give us, the record will remain open for 10 days.

Our next panel will include Dr. James Snow, director of the National Institute on Deafness and Other Communication Disorders, Bethesda, Maryland; Dr. Michael Karchmer, director, Gallaudet Research Institute; Dr. Richard Stoker, Central Institute for the Deaf, St. Louis, Missouri; Dr. Donald Moores, director, Center for Studies in Education and Human Development, Gallaudet University; and Dr. Judith Harkins, director of the Technology Assessment Program, of Gallaudet University. Please be seated.

I would like to remind you that your written testimony will be entered in its entirety in the record. Please use the time we have to highlight any aspect of that you wish. We are a little pressed for time now, so I would appreciate it if you could confine your comments to 5 minutes in order to maximize the time for questioning.

We will begin with Dr. James Snow.

STATEMENTS OF JAMES B. SNOW, JR., M.D., DIRECTOR, NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS, BETHESDA, MARYLAND; MICHAEL A. KARCHMER, DIRECTOR, GALLAUDET RESEARCH INSTITUTE, GALLAUDET UNIVERSITY, WASHINGTON, DC; RICHARD G. STOKER, CENTRAL INSTITUTE FOR THE DEAF, ST. LOUIS, MISSOURI; DONALD F. MOORES, DIRECTOR, CENTER FOR STUDIES IN EDUCATION AND HUMAN DEVELOPMENT, GALLAUDET UNIVERSITY, WASHINGTON, DC; AND JUDITH E. HARKINS, DIRECTOR, TECHNOLOGY ASSESSMENT PROGRAM, GALLAUDET UNIVERSITY, WASHINGTON, DC

Dr. SNOW. Thank you, Mr. Chairman. Mr. Chairman and members of the subcommittee, thank you for the opportunity to appear before you at this hearing on the reauthorization of the Education of the Deaf Act.

Should educators and parents teach deaf children a manual language that can be learned during the period of optimal language acquisition, or should educators and parents provide oral education that will encourage spoken communication with hearing society? These are the questions that have perplexed thoughtful individuals for centuries regarding the education of deaf children.

Recent NIDCD-supported research has shown that the basic building blocks of a native spoken language are determined within the first 6 months of life. However, the critical period for language acquisition extends over the first several years of life. Too often the detection of hearing impairment occurs long after the child who cannot hear needs to have a language to express his or her needs, ideas, and emotions.

The educational issues are confounded by the varying degrees of hearing loss and the age of onset. There are children born without hearing or with so profound a loss that residual hearing is of little value to the child in the acquisition of language. Others have resid-

ual hearing for which amplification is an aid in language acquisition. Still others develop their hearing impairment after exposure to spoken language.

Even within these groups, a single educational strategy does not seem to work for all children within the group. The determinants of which strategy to follow remain unclear. How does the teacher make the best use of each of the sensory assistive devices? How does the education system make use of two languages: English and American Sign Language, also known as ASL?

Which methods and strategies are beneficial to which children? They include manual language; the oral, auditory approach, including speechreading; Signing Exact English; Pidgin Signed English; cued speech; total communication, that is, using all communication strategies available; and the simultaneous method, that is, using manual and spoken languages simultaneously.

Many of these questions will be answered by basic and applied research. The mission of the NIDCD is to conduct and support biomedical and behavioral research and research training in normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language. The NIDCD supports efforts to create devices which substitute for lost and impaired sensory and communication functions, and conducts and supports research and research training that is related to disease prevention and health promotion.

The NIDCD has established an Interagency Coordinating Committee on Deafness and Other Communication Disorders. Representatives of 33 Federal agencies are meeting four times a year to share information about their programs.

The NIDCD has held a series of working group meetings to assess the needs of those within its mission. The working groups on research and research training needs of the deaf community and the research and the research training needs of oral, auditory hearing-impaired persons recommended research on the functioning of the brain in language, the relationship between the communication uses of the parent, peer, or teacher person and the communication choices of the deaf, hard-of-hearing, or hearing-impaired person, and appropriate devices, interventions, and therapies for deaf, hard-of-hearing, and hearing-impaired persons. Both identified the need for early detection of hearing loss.

The NIDCD will cosponsor a consensus development conference and issue a request for applications on the early detection of hearing loss in infants and young children. The conference will evaluate diagnostic tools and methods and establish guidelines.

Another working group will be addressing the impact of visual impairment on deaf and hard-of-hearing persons. The NIDCD plans to issue a request for proposals on speech and language acquisition in the congenitally deaf child in a hearing family; in particular, factors associated with successful speech and language acquisition.

Research on cochlear implants includes work on the speech processor, study of the ability of electrical stimulation to preserve neural tissue, comparison of sensory aids in deaf children, evaluation of cochlear implants in deaf children, determination of preoperative predictors, of postoperative performance, evaluation of alternative sound processing strategies, study of speech recognition,

and work on the psychophysics and engineering of improved cochlear implants.

The NIDCD's current portfolio of language acquisition includes many studies on ASL. We are not identifying a single approach to meet the needs of these children, their parents, peers, or teachers, but finding those elements in these multiple approaches that will be effective for differing groups of children.

The things we know for certain from recent research include knowledge that there is a unique and limited critical time for acquisition of primary language. That's true for signed and spoken languages. We know that some children benefit from cochlear implants. We know that patterned electrical stimulation can help maintain the biological integrity of the auditory nervous system for possible later intervention. We are finding that the underlying neuronal structures are the same for spoken and signed language.

We need to know more about the influences of parental communication modes on the outcomes for hearing-impaired children. NIDCD recognizes that parent and family involvement is an important element of educational success. Furthermore, for the parent or guardian to be effective, he or she needs full access to research data that are without bias and written in an easy to understand form.

We are learning more about the nature of language acquisition. We are learning more about the appropriate candidates for cochlear implantation. We are making progress in the molecular biology of several forms of hereditary hearing impairment, including Usher's syndrome.

Central to all this discussion is the importance of early identification of hearing loss. Currently, in this country, the average age for identification of hearing loss is 2½ years. We know that there is a critical period for language learning within the first several years of life. The implications are clear for the undiagnosed child. Early identification allows many opportunities and strategies to be opened to the deaf or hearing-impaired child. The longer the wait to begin appropriate education for the child, the more limited is the outcome for that child.

The answers to the questions about which strategies and devices to use to optimize each child's potential will come from rigorous peer-reviewed research, the type of research that the NIDCD is dedicated to supporting.

Thank you for including the NIDCD in this testimony and for giving me an opportunity to share some of our current research with the subcommittee. I would be happy to try to answer your questions.

[The prepared statement of James B. Snow, Jr., M.D., follows:]

STATEMENT BEFORE

COMMITTEE ON EDUCATION AND LABOR

SUBCOMMITTEE ON SELECT EDUCATION

U.S. HOUSE OF REPRESENTATIVES

JAMES B. SNOW, JR., M.D.,

DIRECTOR

NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDERS

NATIONAL INSTITUTES OF HEALTH

MARCH 10, 1992

RESEARCH RESULTS AND RESEARCH NEEDS IN LANGUAGE ACQUISITION BY DEAF CHILDREN: IMPLICATIONS FOR THE EDUCATION OF DEAF CHILDREN

Mr. Chairman and members of the Subcommittee, thank you for this opportunity to appear before you at this hearing on the reauthorization of the Eduation of the Deaf Act.

I am Dr. James B. Snow, Jr. , Director of the National Institute on Deafness and Other Communication Disorders one of the Institutes of the National Institutes of Health.

Deaf Education and the Need for Further Research

Should educators and parents teach deaf children a manual language that can be learned during the period of optimal language acquisition? Or, should educators and parents provide oral education that will encourage spoken communication with hearing society? These are the questions that have perplexed thoughtful individuals for centuries regarding the education of deaf children.

Recent NIDCD-supported research has shown that the basic building blocks of a native, spoken language are determined within the first six months of life. However, the critical period for language acquisition extends over the first several years of life. Too often the detection of hearing impairment occurs long after the child who cannot hear needs to have a language to express his or her needs, ideas and emotions.

The educational issues are confounded by the varying degrees of hearing loss and the time of onset. There are children born without hearing or with so profound a loss that residual hearing is of little or no value to the child in acquisition of language. Others have residual hearing for which amplification is an aid in

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language acquisition. Still others develop their hearing impairment after exposure to spoken language. Even within these groups,a single educational strategy does not seem to work for all children within the group. The determinants of which strategy to follow remain unclear.

As you know, deaf children are educated in many settings. Deaf children are taught in deaf schools, in special programs within private and public schools and in mainstreaming programs with hearing children.

In testimony earlier this month, you have heard that seventy percent of the hearing impaired children in this country are mainstreamed . However, we do not have enough information about the impact of education in any of these environments upon the acquisition of language, academic performance and the psychosocial well-being of the children who are taught in these varied programs.

There has been debate about how deaf children acquire language. Efforts have been dedicated to the development of assistive devices used to enhance, substitute or augment sensory loss. Much effort has been focused upon improving the oral skills of the deaf or hearing-impaired child, while making use of any residual hearing. This oral, auditory approach includes developing speechreading skills for the support of spoken and written English. Likewise, much work has focused upon teaching hearing-impaired and deaf children English as a second language when their first language is sign language.

In a recent symposium on cochlear implant in children, it became apparent that we are witnessing the evolution of a new discipline in the education of deaf children: Teaching deaf children who have cochlear implants. Much remains to be studied

about the new learning strategies that will be needed to support the education of this growing group of children.

How does the teacher make the best use of all of the sensory assistive devices? How does the educational system make use of two languages, English and American Sign Language? Which methods and strategies, manual language, the oral, auditory approach including speechreading, Signing Exact English (SEE), Pidgin Signed English (PSE) , cued speech, "total communication" (the use of all communication strategies available), the simultaneous method (using manual and spoken language simultaneously), are beneficial to which children?. Many of these questions will be answered by basic and applied research.

Mission of The National Institute on Deafness and Other Communication Disorders

The mission of the National Institute on Deafness and Other Communication Disorders (NIDCD) is to conduct and support biomedical and behavioral research and research training in the normal and disordered processes of hearing, balance, smell, taste, voice, speech and language. The NIDCD also supports efforts to create devices which substitute for lost and impaired sensory and communication functions and conducts and supports research and research training that is related to disease prevention and health promotion. The vast majority of our support goes to investigator-initiated grants. The ways in which we communicate with one another and our environment is studied throughout the portfolio of the Institute's current grants.

An important part of the NIDCD mission is to reach out to both the public and the scientific community. To increase dissemination of information important to disease prevention and health promotion and to ensure that research results are known, the

legislation creating the NIDCD mandated the establishment of an Information Clearinghouse. The Clearinghouse began last year to disseminate health information, develop and distribute public education materials and to provide educational exhibits to health professionals, industry, patients, and the public.

The Interagency Coordinating Committee on Deafness and Other Communication Disorders

The NIDCD has established an Interagency Coordinating Committee (ICC) on Deafness and Other Communication Disorders. Representatives from 33 agencies of the Federal Government with activities in deafness and other communication disorders are meeting four times a year to share information about programs in each agency. The ICC will create opportunities for interagency cooperation and collaboration.

The NIDCD National Strategic Research Plan

The law that established the NIDCD, the National Deafness and Other Communication Disorders Act of 1988 (PL 100-553), directs that the NIDCD develop a plan to expand and intensify research in deafness and other communication disorders. This plan assesses the state of the science in human communication, indicates directions of current research and identifies gaps in what is known and promising areas of inquiry. The National Strategic Research Plan (NSRP) was developed in January 1989 by more than 100 distinguished scientists and clinicians. It provided a three-year and longer-range statement of national research goals and priorities. (Dr. Michael Karchmer, Dr. I. King Jordan, Dr. William Castle, Dr. Arthur Boothroyd, Dr. Ursula Bellugi, Dr. Robert E. Johnson, and Dr. Cynthia Shewan were among those serving on the panels.)

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Expert panels are updating two of the six research sections in the NSRP each year. The balance and vestibular system section and the language section were updated in January 1991; the hearing and voice sections were just revised in January in 1992 ; and the sections devoted to speech and the chemical senses will be updated in 1993. By repeating this cycle every three years, no part of the NSRP will be more than three years old, and the program goals and priorities will reflect recent research accomplishments and strategies for future investigation.

Language Section Update of the NIDCD National Strategic Research Plan

In the Language update, expected to be available later this spring, research needs are presented. The executive summary indicates that within the area of Language Development in Deaf Children, new studies are needed to:

- Identify and describe patterns of acquisition of American Sign Language (ASL), particularly when access to a first natural language is delayed or incomplete;
- Identify and describe patterns of language acquisition of children exposed primarily to systems or styles of signing in which the intention is to model or support English speech;
- Identify and describe patterns of language acquisition among children exposed primarily to oral language;
- Identify and describe patterns of language acquisition of children primarily exposed to spoken English through cued speech;

- Identify and describe patterns of related cognitive, psychological and academic deficits accompanying delayed language acquisition;

- Study the nature and value of language models provided by hearing adults in contact with deaf children. This research should include studies of the nature of receptive and productive aspects of English-like signing in addition to aspects of auditory, oral language models;

- Identify deaf children who have language disorders by examining and describing the differences between normal and language-impaired deaf children;

- Study approaches and techniques for the training of hearing parents of deaf children to sign or to facilitate the development of their children's spoken language, including the use of cued speech;

- Identify and describe the processes or reorganization of the input language, particularly pidginization and creolization processes in language contact situations;

- Identify and describe the invention of gestural language systems without formal sign input and the relation of this process to eventual signed or spoken language development;

- Study approaches and techniques for evaluating the potential of new technology and intervention strategies (such as auditory prostheses, laser disk technology, computer-based training systems) for promoting spoken language acquisition by deaf children;

- Identify critical periods for both the natural acquisition and training of spoken or signed language by deaf children;

- Develop the means of identifying language disorders in deaf children from different cultures.

Regarding literacy of deaf children and adults, it is recommended that research should be conducted to:

- Study the nature of processing text by successful deaf readers in an attempt to identify the most effective strategies, both auditory and visual, for teaching of literacy to deaf people;

- Develop and test new strategies and techniques for teaching English as a second language to deaf children who make use of their capabilities for visual language processing;

- Study the role of captioning, telecommunications devices, personal computers and other technological influences on the improvement of deaf children's literacy skills;

- Study the relationships between speech processing and literacy in deaf children who use spoken language primarily;

- Study the relationships among speech processing, sign processing and literacy in deaf children who use sign language;

- Develop and evaluate appropriate and psychometrically-sound tests of psychosocial, intellectual and academic development and of first- and second-

language acquisition by deaf children and adults under a variety of language use conditions;

- Examine the interaction of acquisition of signed languages with spoken and written language and begin to characterize the resulting bilingualism. Studies of the order of acquisition of speech and signed language as they affect children's eventual acquisition of English language and literacy should also be conducted.

The summary includes recommendations for basic research on sign language structure and function. Investigators should be encouraged to:

- Continue research on brain mapping for sign language functions;
- Develop improved techniques for imaging sign language motions in three-dimensional space;
- Conduct further investigations into how deaf people perceive and process visually. Studies could include investigations of the relation between limb control and vision and of the functioning of deaf people with visual disorders;
- Conduct studies of the nature of parallel processing of language, such as the simultaneous processing of visual and auditory information;
- Expand studies of the brain and language, such as those on the specialization of the cerebral hemispheres for language and other cognitive processing;
- Study signed language and other languages used by the deaf community from functional/psychological and structural/linguistic perspectives. Studies should

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focus on the nature of the "creolization" of signed language and the effect of interaction of modality and language structure, including contact signing;

- Study signed languages other than ASL and varieties of signing within ASL, to identify the role of cultural and ethnic differences on signed language use by deaf people;

- Study other signed languages, such as simultaneous communication and signed English, relative to the acquisition of English language by deaf children.

- Relate infants' early acquisition of sign language phonology, assessed through tests of sign perception, to the acquisition of the higher levels of language, such as the acquisition of words (lexicon), word meanings (semantics) and grammar (syntax);

- Investigate basic and higher level processes underlying vision, including the requirements of structured use of space and movement, the processing of complex dynamic arrays and the perception of motion and form; and,

- Study the impairments to sign perception in deaf individuals who become aphasic or who sustain other cognitive impairments subsequent to brain damage.

The expert panel on Language and Language Impairment also dealt with multicultural issues, language and its disorders in children (including assessment, academic, social and vocational impact, and intervention) as well as language and its disorders in adults (including brain-language relations, analysis of processes underlying language disorders, assessment, intervention and recovery and comparative language studies). The panel included experts from each of these

areas. (Co-chairpersons were Dr. Rita Sloan Berndt and Dr. Laurence B. Leonard. Panelists were Dr. Dorothy Aram, Dr. Li-Rong L. Cheng, Dr. H. Branch Coslett, Dr. Ann E. Geers, Dr. Harold Goodglass, Dr. Robert E. Johnson, Dr. Ted Supalla, and Dr. Sandra L. Terrell. Resource persons were Dr. William E. Castle, Dr. Paul Chapin, Dr. Michael A. Karchmer, Dr. Isabelle Rapin, and Dr. Cynthia Shewan.)

Fifty-three percent of the current NIDCD portfolio is in hearing research, including both normal and disordered functions of hearing and assistive devices such as cochlear implants and hearing aids. A growing portion of the Institute's portfolio is in language, currently 11 percent, and includes language of deaf persons, language acquisition by deaf children, and literacy of deaf children and adults.

Recommendations of Working Groups on Research Needs of the Deaf Community and Research Needs of Oral, Auditory Hearing-Impaired Persons

The NIDCD has held a series of working group meetings to assess the needs of those within its research mission. Two such working groups relate directly to the focus of this discussion. The Working Group on Research and Research Training Needs of the Deaf Community was held September 7, 1990 and was co-chaired by Dr. I. King Jordan and Dr. Carol Padden. This meeting included both members of the deaf community and deaf and hearing investigators to seek their views about the needs for deafness research and the role of the NIDCD. Presenters gave summaries of their research on deafness in the areas of brain function, genetics, language acquisition, literacy, demographics, the deaf community, and technology.

The research recommendations from the working group contained a call for more brain research that includes mapping for sign language functions, the nature of

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parallel processing of language and conducting further investigation into visual processing. Recommendations on genetics suggested encouragement of continued research on the genetic basis of deafness with involvement of deaf people in the process; as well as the support of clinical and family studies of syndromes that involve multiple body systems (particularly those syndromes that are associated with life-threatening conditions).

In items relating to language acquisition the focus of recommendations was on interaction between deaf children and hearing parents; deaf children and deaf parents; hearing children and deaf parents; and deaf children and siblings and peers, as well as on the study of the acquisition of sign languages, the interaction of acquisition of sign language and English, and the nature of bilingualism. In recommendations on structural studies of language, the study of sign languages and other languages from a functional/psychological and structural/linguistic perspective and studies on creolization of sign language and contact signing were included, as was studying the structure of other systems, such as gestures, home signs, and manually coded English.

In the area of literacy, recommendations encouraged study of the development of literacy through observation and ethnographic research, studies of the processing and creation of visual text, and the conduct of research on ASL secondary discourses (e.g. telling stories) that child and adult members of the deaf community manage (examining the relationship between mastery of those secondary discourses to the reading and writing of English). In the area of assessment, the working group called for an examination of assessment tools and the development of standardizing norms that will allow psychometric evaluation of deaf people.

The report called for differing bases and definitions for population study and new approaches to gathering prevalence data. The section of the report on technology and assistive devices emphasized the need for the following: research on visual processing; modification of current technologies; study of synthetic speech for communication and speech recognition; early identification of hearing loss; and studies to examine the long-term effects of cochlear implants on deaf children and their families.

The report also called for encouraging young deaf scientists, creating active projects in a mentorship relationship for deaf students, retraining older deaf people to collaborate in research, training deaf people in the community to serve in an advocacy role on advisory boards for NIH-funded research, examining of the availability and quality of interpreters, and developing training materials relevant to deafness for professionals in allied health fields.

The working group recommended that the NIDCD take the leadership role in coordinating the efforts of government agencies involved with deafness and deafness research and establish interagency committees to achieve this end.

A second working group, addressing the Research and Research Training Needs of Oral, Auditory Hearing-Impaired Persons, met April 23, 1991. The co-chairs were Dr. Richard G. Stoker and Ms. Virginia W. Stern. The group developed major recommendations for research priorities in four areas: spoken language production; spoken language perception; spoken language acquisition; and, developmental and psychosocial factors.

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Spoken language recommendations included investigating the role of breathing control as a therapeutic approach to the speech of deaf speakers; more widespread use of single-subject designs to evaluate developmental and/or treatment efficacy; studies in multilingual, multicultural environments focusing on families, family environment, and family expectations; information dissemination; evaluation of competent, adult deaf speakers for critical parameters of linguistic competence; and development of screening procedures for early identification including research into training issues for pediatricians and otorhinolaryngologists. The report called for the development of acoustic, perceptual profiles, including the evaluation of perceptual motor problems and characteristics; evaluation of integrated processing strategies using visual, tactile, and auditory modalities; evaluation of feedback mechanisms used by individuals, including laboratory devices versus classroom devices versus hearing aids; study of the psychoacoustics, psychophysics, and cognitive processing strategies associated individually and in combination with visual, tactile and auditory aids. The group made recommendations related to the simultaneous acquisition of longitudinal, physiologic measures and assessment of sensory aids and investigation of therapeutic approaches as well as nontraditional approaches to therapy.

In spoken language perception, the group asked for development of diagnostic methods for determining the best learning methods, e.g. cochlear, tactile, amplification; development of methods of testing differential sensitivity of speech perception, including methods of evaluating the innate capabilities of individuals for speech perception (neurologic, cognitive, physiologic, linguistic, and behavioral methods); development of methods of testing stimuli for increasing the understanding of normal perception and establishment of auditory/perceptual baselines; integration of high-level linguistic processing; determination of age-

related norms for diagnostics; teaching/learning, including strategies, transfer training, and motivation of learner; evaluation of computer-aided instruction; and analysis of "master" clinician.

The working group summarized spoken language acquisition needs as: research on the use of process critical language; study of the relationship of language processing to literacy; differentiation of syntax-conversational versus extended discourse; study of the development of complex syntax in persons with late-onset hearing loss; research on process including mentoring; and research on the process of vocabulary building and its relationship to phonetic skills.

Recommendations about developmental and psychosocial factors were focused on identification of populations with children who are hearing-impaired, including longitudinal studies of those who are educated orally and then move into "mainstream" society, and determination of whether nonverbal cognitive development is affected by deafness. Also desired were studies of deaf parents with deaf children, including studies on oral/auditory education; investigation of the impact of social isolation of the hearing-impaired individual as it relates to language acquisition and production; and study of the effect of parents' language and background on the development of auditory/oral skills.

Required Research Support

In FY 91 support for normal and disordered language research by the NIDCD was $6.3 million. Within the next three years, in order to accomplish the immediately needed research I have described from the recommendations offered by the updated National Strategic Research Plan and the Working Groups on the Research and Research Training Needs of the Deaf Community and the Research and Research Training Needs of the Oral, Auditory Hearing Impaired, would cost an additional $12 million dollars. Over the next decade an additional $25 million dollars would be required to support the research needed to answer fundamental questions of appropriate strategies to enhance acquisition of language and to develop needed devices for use by children who are born deaf or hard of hearing or who are born with or acquire or suffer a hearing impairment later in life. The research on cochlear implants that will enhance the quality of life for children for whom this technology is appropriate was $6.1 million for FY 91. This research is projected to need a level of support of $10 million per annum over the next three years. By the end of the decade this research will require $20 million of support per annum.

Many of the recommendations of the two working groups address similar areas of interest: the functioning of the brain in language, the relationship between the communication uses of the parent/peer/teacher and the communication choices of the deaf, hard-of-hearing or hearing-impaired person, educating deaf children; and appropriate devices or interventions or therapies for deaf, hard of hearing or hearing-impaired persons. All identified the need for early detection of hearing loss.

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Early Identification of Hearing Loss to be Addressed

The NIDCD will co-sponsor with the Office of Medical Applications of Research a Consensus Development Conference in February 1993 dedicated to the Early Detection of Hearing Loss in Infants and Young Children. The conference will evaluate diagnostic tools and methods and establish guidelines for the pediatrician, family practice physician, otolaryngologists and audiologists who identify hearing loss in children.

Speech and Language Acquisition in the Congenitally Deaf Child in a Hearing Family: Request for Application FY 1993

The NIDCD's 1993 proposed initiatives include a Request for Proposals on Speech and Language Acquisition in the Congenitally-Deaf Child in a Hearing Family: Factors Associated With Successful Speech and Language Acquisition. A contract will be awarded to follow a group of congenitally-deaf children of hearing parents over a five year period. Children will enter the study within three months of identification. Treatment groups will be specified, and periodic speech, language, cognitive, and affective measures will be taken. Group comparisons at the completion of the study will address levels of performance across the groups and factors associated with high levels of performance within each treatment type.

Research on Auditory Prostheses

NIDCD's National Strategic Research Plan originally called for continued development and assessment of cochlear prostheses. The cochlear implant is a prosthesis that changes sound into electrical current in order to stimulate auditory nerve fibers. As proposed, these efforts on development and assessment should include studies of enhanced signal processing techniques as well as more basic research "[to develop] the appropriate models to define the characteristics of the response of the structures of the inner ear to electrical stimulation and also [to develop] neural/behavioral models to define the processing of electrically elicited activity." The same section called for "improving speech coding strategies and defining boundaries for applying this technology in the deaf population. The original panel addressed improvement of the safety of implants, strategies to predict cochlear implant performance before implantation and appropriate rehabilitation strategies for patients who have received implants. The report stated that future refinement of the device and development of multichannel electrodes should be pursued using a strategy in which basic research is interfaced with technical and clinical research." As was pointed out in the original plan, 'research on neural auditory prostheses is providing an additional and important window for examining auditory function, maturation and plasticity within the central nervous system."

The work on updating the Hearing and Hearing Impairment section of the plan is not complete, however, research in auditory prostheses is again given high priority and research in cochlear implantation children is emphasized. The benefit children receive from cochlear implants is recognized and the importance of speech

processing based on high rates of pulsatile stimulation in understanding speech as developed through research and development contracts of the NIDCD is noted. The study of the role of electrical stimulation in prolonging the survival of neural tissues is given high priority. Likewise, improved electrode systems that allow for a greater number of perceptual channels and increased channel selectivity, yet are suitable for replacement as required, need to be developed. Longitudinal studies of the development of auditory, speech perception and production and language skills in hearing-impaired children who have received cochlear implants are needed, as are comparisons with hearing aids and tactile aids.

Thirty years ago the possibility of improving aural communication for persons with profound hearing loss in both ears was nonexistent. These individuals would not have been able to communicate with colleagues or friends or use a telephone. They would not have been able to identify a car horn or a baby crying. Through the development of the cochlear implant, individuals with profound hearing loss have been given new or renewed abilities.

Most frequently, profound hearing loss is due to loss of the hair cells in the inner ear or cochlea. These are the cells that initiate an impulse in the auditory nerve. The cochlear implant bypasses the hair cells and directly stimulates the auditory nerve. Progress in the design of speech processors, that select elements of speech sounds for improved comprehension of conversation, has enhanced opportunities for many individuals.

The NIDCD (and the preceding Communication Disorders Program of the former National Institute of Neurological and Communicative Disorders and Stroke) have

supported several important contracts and grants on cochlear implantation over the past 20 years. Originally, animal research was conducted under contract in cats as well as in non-human primates. In 1975, early grants were awarded to several investigators for the study of cochlear implants in the cat. These grants centered on the effects of stimulation of the cochlea in the cat as well as demonstrating the tonotopic organization of the cochlea for stimulation of discrete frequency areas. A landmark evaluation of the first 13 implant patients was conducted under contract. The outstanding results were the development of repeatable psychophysical measures to assess patient performance and the published finding that speech reading was markedly enhanced in conjunction with cochlear implant stimulation. The NIH also supported an early study of the safety of cochlear implants, and a contract was supported for the development of electrochemically-safe electrodes.

The NIDCD is currently supporting cochlear implant research under several mechanisms. Investigator-initiated research is in progress on the comparison of sensory aids in deaf children. Another project is comparing single channel cochlear implants and vibrotactile aids in deaf children. An investigator is evaluating cochlear implants in deaf children. This work intends to determine objectively whether cochlear electrical stimulators, tactile aids, acoustic hearing aids or some combination of these are best for developing spoken language in prelingual, profoundly-deaf children. In another grant, the investigators are studying strategies to optimize benefits from a cochlear implant by evaluating possible preoperative predictors of postoperative performance. They are evaluating the alternative sound processing strategies as well as the long-term benefits which cochlear implants may provide. They are also analyzing retest reliability and stability of performance measures. Another grant is designed to account for three aspects of speech

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recognition by patients who use multichannel cochlear prostheses at an initial , interim and final level of performance. A current awardee is studying temporal processing in cochlear implants. Also under investigation is a study of the psychophysics and engineering of improved cochlear implants.

Currently, four funded program projects address mechanisms of intracochlear electrical stimulation; rehabilitation strategies for hearing-impaired persons; basic animal and engineering studies directed toward electrode improvement including clinical studies; and, basic and applied research on cochlear prostheses. One clinical center supports studies of cochlear implantation. One National Multipurpose Research and Training Center addresses, in part, cochlear implantation in children.

A Clinician-Investigator Development Award is supporting the study of morphologic and physiologic changes in the cochlear nucleus in deaf animals due to multichannel cochlear implant stimulation.

In addition to grants, the NIDCD supports several research and development contracts on cochlear implantation that include ones studying the histopathology of cochlear re-implantation ; the design of pediatric cochlear implants ; and, the improvement of speech processors for auditory prostheses and the development of the new, interleaved, rapid, pulsed speech processor . Development of biomaterials for neural prostheses through contracts has continued to benefit the development of cochlear implants. Under contract, an implantable interconnect plug for cochlear implants was developed and, again, under contract the protective effects of patterned, electrical stimulation on the spiral ganglion cells in deafened

animals is being studied. The same scientist has recently completed investigations of implants in young animals in order to study infection. The completed work indicates a low risk of otitis media with pediatric implants. In another investigation, head growth is being studied. Although, the cochlea does not change markedly in size as an infant grows and matures, the head itself grows. Some novel, expandable, cables are biomaterials that have resulted from this work.

Language Acquistion by Deaf Children and Adults: Research Supported by NIDCD

Included in sign language research is a study on the acquisition of morphological processes in American Sign Language. This project using ASL as a research tool is studying the human capacity for language and is investigating to what extent the overall form and organization of language is determined by the modality in which it is presented. This research is using detailed longitudinal studies of spontaneous mother/child interactions on videotape augmented with experimental interventions. This comparison between signed and spoken languages allows for testing hypotheses about the mechanisms that determine language structure.

Another scientist is working on the development of cerebral specialization in language. Using both deaf and hearing subjects. The work is attempting to identify the roles of early sensory experience and early language experience in neural and behavioral development. This study should contribute to understanding the optimal nature and timing of education for deaf and blind children as well for normally hearing/sighted children.

A study is being conducted on the development of communication functions in deaf children. The investigator is looking at early communication. The plan is to develop an instrument to assess early communication functions that can be used with both

normally hearing and hearing-impaired children; to investigate factors of parent-child interaction that may have an influence on the hearing-impaired child's acquisition and use of the various functions; and, to develop teaching objectives and specific intervention strategies for children with hearing impairments.

An investigator is studying the structure and acquisition of American Sign Language. ASL may be acquired as either a primary or second language, either early or late in life, and either from native signers or from signers who themselves acquire the language late in life. This work is investigating the consequences of early versus late exposure and the consequences of impoverished input environments on language acquisition. Previously it was demonstrated that age of exposure strongly influences language performance, many years later, in both a first and second language. The work underway will investigate whether the effects of age of exposure differ in degree for first versus second language acquisition, whether they extend to the application of universal syntactic principles in the the language, and how they manifest themselves in the initial few years of learning the language. A project is underway investigating the feasibility of using neural networks to study ASL signs. These scientists are taking the joint and position sensor information from a Polhemus DataGlove and establishing the minimum information necessary to recognize a given set of signs, using the cheremic (comparable term to phonemic for manual languages) code proposed by sign language researchers. Sensor data fusion techniques using associative neural networks will be used to set up the training and the recognition systems. The outcome of this study should contribute to studying automatic sign language recognition.

An NIDCD-supported study is tracing the development of the syllable in early sign phonology in order to improve our understanding of phonological structure in a visual language. The second aim of this project is to trace the emergence of

independent features analogous to phonemes (the building blocks of language) in spoken language. The investigator's hypothesis suggests a universal phonology. That phonology is related to language whether the modality used is spoken or signed. This research should contribute to understanding how a visual language is acquired. Another scientist is at work on the acquisition of grammatical facial expression in ASL.

Using videotapes taken of home observations of ten American and ten Chinese deaf children of hearing parents, investigators are identifying the properties of language whose development can withstand wide variations in learning conditions--they are looking for the "resilient" properties of language. This study of spontaneous sign systems in children follows previous research on children in impoverished language-learning conditions. An impoverished language-learning condition would occur, for example, when a deaf child is born to hearing parents and that child's hearing loss is too severe to acquire naturally spoken language and the child is not exposed to a manual language. This would leave the child without full exposure to either a spoken or a manual language. In earlier research, an American deaf child who was studied demonstrated the ability to develop a gestural communication system which was structured at both the sentence level and the word level.

An investigator is at work on the development of an American Sign Language Hypermedia Dictionary. This would include interactive videodisc that could be used in schools and research institutions and would include such functions as phonetic look up, definitions in ASL, inflected forms, complete pronunciation information, and usage examples that are not currently available in other types of ASL dictionaries.

What We Have Learned and What We Need to Know: The Role of Research

All of the research projects currently supported by the NIDCD are contributing to basic knowledge about the nature of language acquisition and learning strategies of deaf , hard-of-hearing and hearing-impaired children. We are not identifying a single approach to meeting the needs of these children, their parents , peers and teachers, but finding those elements in these multiple approaches that will be effective for differing groups of children. The things we know for certain from recent research include the knowledge that there is a unique and very limited critical time for acquisition of a primary language. That is true for signed and spoken languages. We know that some children benefit from cochlear implants . We know that patterned electrical stimulation can help maintain the biological integrity of the auditory nervous system for possible later intervention. We are finding that the underlying neuronal structures are the same for spoken and signed languages.

We need to know more about the influences of parental communication modes on outcomes for hearing impaired children. NIDCD recognizes that parent/family involvement is an important element of educational success. Further for the parent or guardian to be effective, he or she needs full access to research data that are without bias and written in an easy to understand form. Dissemination of these data is an important responsibility of the NIDCD Information Clearinghouse.

We are learning more about the nature of language acquisition. We are learning more about the appropriate candidates for cochlear implantation. We are making progress in the molecular biology of several forms of hereditary hearing impairment such as Waardenburg syndrome, Usher syndrome, Alport syndrome as well as late

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onset deafness expressed in the Monge family in Costa Rica and we are beginning to look for the genes for recessive, non-syndromic hereditary hearing impairment in children in India.

Central to all of this discussion is the importance of early identification of hearing loss. Currently, in this country the average age for identification of hearing loss is two and one-half years of age. We know that there is a critical period for language learning within the first several years of life. The implications are clear for the undiagnosed child. Early identification allows many opportunities and strategies to be open for the deaf or hearing-impaired child; the longer the wait to begin appropriate education for the child, the more limited is the outcome for that child. The answers to the questions about which strategies and devices to use to optimize each child's potential will come from rigorous, peer-reviewed research, the type of research that is the NIDCD is dedicated to supporting.

Thank you for including the NIDCD in these discussions and for giving me an opportunity to share some of our current research with the Committee.

I would be pleased to try to answer any questions.

Chairman OWENS. Thank you.

Dr. Michael Karchmer.

Dr. KARCHMER. Chairman Owens and members of the subcommittee, I am pleased to be here to testify on the reauthorization of the Education of the Deaf Act of 1986. This reauthorization comes at a challenging time for people who are involved with educating deaf children and youth. It is also an exciting time for researchers, because research has a key role to play in improving the lives of deaf children as we move to the next century.

The past decade has seen a great number of changes in the education of deaf students. For the next few minutes, I would like to focus on these changes, comment on variables which affect educational placement, and then suggest factors that assist or prevent us from maximizing educational outcomes of deaf children.

Over the past decade, there has been a steady decline in the number of deaf children in special education, close to 20 percent. We have also seen a change to a more culturally and ethnically diverse population. White, non-Hispanic students now make up less than 63 percent of the total. This trend is certain to continue.

The most notable change has been in the patterns of educational service delivery. The strong trend has been from placement in special schools to placement in local school districts. This is particularly true for younger children. There can be little doubt that Public Law 94-142 has played a large role in this.

As far as educational outcomes, the last decade has seen a slight rise in the scores of deaf students, as measured by standardized achievement tests. Before we pat ourselves on the back, however, it's important to note that this increase, while statistically significant, is only on the order of about half a grade equivalent for teenage deaf students. The fact is that average performance of deaf students remains well below that of their hearing peers in both reading and mathematics.

Only about 15 percent of 17-year-old students with severe or profound hearing loss achieve a seventh-grade equivalent on standardized reading tests. The picture is even bleaker when one considers ethnic status. Only 5 percent of Hispanic and 3 percent of black 17-year-old deaf students achieve this reading level.

Why the ethnic difference? One factor is suggested in the soon to be published study from the Gallaudet Research Institute which demonstrates that, on average, black and Hispanic students are not getting the same kinds of curriculum coverage as white students.

The educational placement of deaf students continues to be a hotly-debated topic. Many advocates of special school placements assert that, for most students with substantial hearing impairment, local school placement is frequently associated with social isolation or lack of appropriate instructional or support services. Other special education officials argue that mainstreaming, in and of itself, constitutes the least restrictive environment.

Whatever the merits of these positions, there can be no doubt that, from a demographic point of view, school placement is anything but a random process. Degree of hearing loss remains the biggest predictor of school placement and of the extent of academic mainstreaming.

Nearly 70 percent of deaf and hard-of-hearing students in special education are now being educated in local school settings, but placement in a school that also enrolls hearing students does not necessarily imply mainstreaming. About a quarter of these students are in self-contained classrooms, meaning that they are mainstreamed only to the extent that they are in physical proximity to groups of hearing students.

This statistic is of more than passing interest. Achievement test results demonstrate that, when other factors are taken into account, deaf students in self-contained classes score the lowest when compared to deaf students in all other educational settings.

The vast majority of deaf students are in programs where signed communication is used; yet, according to teacher self-ratings, signing teachers in local schools rate themselves as less capable signers than do signing teachers in special schools.

Many argue that it is vital for deaf children to be exposed to successful deaf adults who can serve as role models. While we have found that about a quarter of children in residential schools have deaf or hard-of-hearing teachers, few students in local school settings are likely to encounter any deaf teachers at all.

Similarly, while about 40 percent of the total population are minority students, most of their teachers, as we have heard today, are nonminority. The discrepancy between the students' family life and what they encounter in school is an important issue requiring attention.

In the past few years, no educational issue has received more attention than how we communicate with deaf children in the classroom. Pointing to continued failure of the current special educational system to produce deaf graduates who are literate, many have suggested that early access to a natural sign language, such as American Sign Language, is crucial for enabling young deaf children to acquire a knowledge of the world around them and to learn to read and write English competently.

Other educators support the use of manual codes for English and assert that it is unrealistic to expect most hearing parents and teachers to learn American Sign Language. One point that must be emphasized is that whatever communication approaches are adopted, there must be a continuity between school and home.

Most deaf children are born to hearing families. We are only now beginning to gain, through research, a picture of what it means in a family system in which one of the members processes the world visually. A major question is, how are adjustments made in the family to achieve the basic goals, including the goal of communication?

If we are to make progress in the education of deaf children, issues that have to do with language, which are always complex and difficult to resolve, must be addressed in a dispassionate way by research. Some schools, for example, have started new bilingual, bicultural programs involving the use of American Sign Language with young deaf children.

Next fall, we, in the Gallaudet Research Institute intend to begin an analysis of some of these programs and to set up protocols in a variety of other settings as well to permit a more thorough under-

standing of how deaf children can acquire the mental tools they will need to become educated and productive adults.

It is important that we learn to identify and understand success in the classroom. Recent research, for instance, has spotlighted the importance of various forms of interactive teaching styles. Based on this research, we can now begin to identify teachers who are particularly effective at interacting with deaf children. One eventual goal is to infuse these techniques into teacher training programs.

One of the projects we are now undertaking is to pinpoint how the most effective deaf and hearing signing teachers make use of the visual abilities of their students in conveying education. For that matter, it is imperative that we fully understand what deaf children's visual abilities are. Too long we have focused on how well deaf children can or can't hear. We should now turn our attention to their abilities rather than their disabilities.

One area of needed research deals with educational interpreting. We need to understand how children function with interpreters in the mainstream classroom. What are the strengths and drawbacks of the use of interpreters? There is now a great deal of recognition concerning the role of cooperative learning and peer interaction in the academic setting for instructional purposes. Given this, what are the implications of a deaf child getting all classroom information mediated through an adult?

An area of needed research mentioned earlier has to do with the development of adequate assessment instruments for psychological, linguistic, and educational assessment. Public Law 94-142 calls for the use of appropriate instruments to assess disabled people; yet, only a handful of tests have been modified or normed for deaf students.

These questions constitute but a sampling of the practical research required if we are to progress in the education of deaf children. It is a tall order for researchers, but it is an agenda that deserves close attention.

[The prepared statement of Michael A. Karchmer follows:]

"Variables that Contribute to Decisions on the Educational Placement of Deaf Students"

Statement by Dr. Michael A. Karchmer

Dean, Graduate Studies and Research

Gallaudet University

before the

Subcommittee on Select Education

of the Committee on Education and Labor

U.S. House of Representatives

March 10, 1992

Dr. Thomas E. Allen, Director of Gallaudet University's Center for Assessment and Demographic Studies (CADS), collaborated closely on the preparation of this testimony. Dr. Allen and his colleagues at CADS made recent findings available for this testimony and conducted additional detailed analyses of the Center's data bases to permit an up-to-date picture of the school placement patterns for deaf and hard of hearing students in the United States.

I'm pleased to have been asked to testify at this hearing on the re-authorization of the Education of the Deaf Act of 1986. This re-authorization comes at a challenging time for the people who are involved with educating our deaf children and youth. It is also an exciting time for researchers concerned with deaf children and their education. Research has a key role to play in improving the lives of deaf children as we move toward the next century.

From the national perspective, the past decade has seen a great number of changes in the education of deaf and hard of hearing children, in terms of both the population itself and the patterns of educational service delivery to these children. For the next few minutes, I would like to focus on these changes, then comment on some key variables which affect decisions concerning the special educational placement of deaf and hard of hearing children.

Changes During the Past Decade

Over the past decade, there has been a steady decline in the number of deaf and hard of hearing children receiving some kind of special education service. For example, from 1983 to 1989 the number of students reported to the Annual Survey of Hearing Impaired Children and Youth declined by about 16%, from 55,000 to 46,000 students (the Annual Survey is estimated to include about two-thirds of the deaf and hard of hearing children reported to the Department of Education Child Count). This decline is due to two primary factors: a) the aging of the cohort of deaf students born during the 1963-64 rubella epidemic and b) the decline of birth rates in the post-baby-

boom era. We will now be entering a period of relative stability, with the expectation that the numbers of students will increase modestly in the last half of the decade.

During the last decade, we have also seen a change to a more culturally and ethnically diverse population. Hispanic students, only 9% of the hearing-impaired group in 1981, now constitute about 14% of the deaf and hard of hearing school-age population. In 1981, white, non-Hispanic students made up almost 70% of this group; by 1991, less than 63% were white. (The percentage of Black students has remained relatively constant over the period, now standing at about 17% of the total.) The trend to a more ethnically diverse population is certain to continue through the decade because of differential fertility patterns among the groups.

One notable change in the education of deaf children has been in the patterns of educational service delivery. The last decade has seen more than a doubling of the number of schools in which deaf children are receiving services. The strong trend has been from placement in special schools to placement in local school districts; this is particularly true for younger children. Although residential school enrollments declined through much of the 1980s, they now appear to be relatively stable, even though these schools are increasingly being asked to serve students with conditions in addition to deafness. (Note: About 30% of deaf and hard of hearing students in special education are known to have additional, educationally relevant conditions.) The factors causing changes in placement patterns are many, but there can be little doubt that P.L. 94-142 played a large role.

During the past decade, signed communication continued to be the instructional mode for the vast majority of students with severe or profound deafness. Speech without signs was the instructional mode for most of the students with less-than-severe hearing losses (less than 70 dB in the better ear across the speech range).

In terms of educational outcomes, the last decade has seen a slight rise in the scores on deaf and hard of hearing students as measured by standardized achievement tests. However, the average performance of deaf and hard of hearing students remains well below that of their hearing age peers in both reading and mathematics. For example, only about 15% of 17-year-old students with severe or profound hearing loss achieve a seventh-grade equivalent on standardized reading tests. (The picture is even bleaker when one considers ethnic status and achievement: only 5% of Hispanic and 3% of Black 17-year-old students with severe or profound loases achieve this reading level.) Clearly, as educators of deaf students, we have much left to do.

Educational Placement of Deaf Students

The educational placement of deaf students has proven to be a frequently and fervently discussed and debated topic since the original authorization of the Education of the Deaf Act. Many advocates of special school placements assert that, for most students with substantial hearing impairment, local school placement is frequently associated with social isolation or lack of appropriate instructional and support services. For these educators, the best placement is the one that enables the student to thrive at the personal and social levels, as well as at the academic level; for many

profoundly deaf students, these educators would say, the best placement would seem to be a special school such as a residential school. Other special education officials argue that mainstreaming in and of itself constitutes the "least restrictive environment" under the terms of P.L. 94-142.

Whatever the merits of these positions, there can be no doubt that, from a population point of view, school placement is anything but a random process. Degree of hearing loss remains the biggest predictor of school placement and of the extent of academic mainstreaming. For example, two-thirds of special education students with less-than-severe hearing losses are academically mainstreamed for at least half of each school day (i.e., more than 3 hours a day on average). In contrast, only about 11% of profoundly deaf students are mainstreamed more than three hours daily; about two-thirds of profoundly deaf students are not academically mainstreamed at all.

We know from recent research that nearly 70% of deaf and hard of hearing students in special education are being educated in local school settings, but it is important to emphasize that placement in a school that also enrolls hearing students does not necessarily imply mainstreaming. About one-quarter of these students are in self-contained classrooms, meaning that they are "mainstreamed" only to the extent that they are in physical proximity to groups of hearing students. This statistic is of more than passing interest. A recent national study of achievement test results demonstrated that, when other factors are taken into account, deaf students in such self-contained classes score the lowest when compared to deaf students in the other educational settings, including residential schools.

Racial and ethnic status is another powerful variable that serves to sort students into various educational settings. In general, minority students at given levels of hearing loss are much less likely than white students to be academically mainstreamed to any great extent. Historically, Hispanic students tend not to be served in the residential schools. They are instead to be found in greater proportion in special day schools in large cities, in self-contained classes, and in local programs that involve small amounts of academic integration with hearing students. Black students show a different pattern: They are enrolled in residential schools in proportions similar to the proportional enrollment of white students in residential schools, but they are far more likely than white students to attend the day schools or to be placed in local programs involving little or no academic integration.

The age of the student is another important variable associated with school placement. This is particularly true for profoundly deaf students (>90 dB hearing threshold). While only 28% of profoundly deaf children who are eight years old attend residential school programs, 58% of those who are 18-years-old attend these programs. This difference appears to represent a pattern of shifting placements, with students previously enrolled in self-contained classrooms in the public schools being placed in residential schools as they get older.

Teacher Differences by Educational Setting

We know from recent research studies that teachers serving deaf children in various educational settings have very different profiles. For example, we have found

that teachers in the special schools tend to have more experience teaching deaf children than do teachers of deaf children in the local schools. As noted above, the vast majority of deaf and hard of hearing children are in programs where signed communication is used. Yet, according to self-reports, signing teachers in local schools rate themselves as less capable signers than do signing teachers in special schools.

Many have argued recently that it is invaluable for deaf students to be exposed to successful deaf adults who presumably can serve as role models. While we have found that about 25% of children in residential schools have at least some deaf or hard of hearing teachers, it is apparent that few children in local school settings are likely to encounter any deaf or hard of hearing teachers at all.

Variables that Contribute to Placement Decisions

The above sections make it clear that, at least from a population perspective, students' degree of hearing loss, racial/ethnic/cultural background, presence of additional handicapping conditions, and age all contribute to placement decisions. There are several other salient factors, some of which are difficult to quantify, and all of which require further study. One key factor, no doubt, is geographic happenstance: students from areas where population is sparse or where programs and resources are perceived to be insufficient are likely to be placed in residential schools; had the students hailed from a prosperous or progressive city, their placement might well have been different. State funding patterns for special education also can tip the balance from one placement to another. For example, some states have instituted payment

voucher systems to LEAs; these systems appear to be influential in shifting the placements of deaf and hard of hearing students.

Other factors which have impact on the placement process are even less well understood. In the past years, for example, officials in the Department of Education have stressed parental choice with respect to their children's education. Yet it is clear that parents' role in the placement process seems to vary markedly according to jurisdiction. The point is that much policy research remains to be done before we can fully understand the nature of how individual student placement decisions are made.

A Research Agenda for the '90s

It may well be apparent from the foregoing sections that I value large-scale descriptive studies of the population. Such studies enable us to identify important patterns and to track changes over time. These studies are crucial for providing the basis for planning, implementing, and evaluating educational policy. They also establish a context and therefore serve as the starting point for asking important research questions using other methodologies. As important as these kinds of studies are, however, much more needs to be done if we are to find ways to maximize educational outcomes for deaf and hard of hearing students in the United States.

In the last few years, no educational issue has received more attention than that of how we communicate with deaf children in the classroom. Pointing to the continued failure of the current special educational system to produce deaf graduates who are literate, many have suggested that early access to a natural sign language

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such as American Sign Language at home and at school is crucial for enabling young deaf children to acquire a knowledge of the world around them and to learn to read and write English competently. This hypothesis is based on well-established findings that deaf children of deaf parents (who acquire American Sign Language as naturally as hearing children acquire spoken English) perform markedly better than other deaf children on most measures of educational, social, and emotional functioning. Other educators support the efficacy of more English-like signing at home and in the classroom and assert that, if nothing else, it is unrealistic to expect most hearing parents and teachers to learn American Sign Language.

The issue of sign communication in the classroom has thoroughly divided the educational community and has unfortunately set groups of parents in opposition. Seemingly conflicting research is often cited to bolster differing points of view. If we are to make progress in educating our deaf children, issues having to do with language -- which are always complex and difficult to resolve -- must be addressed in a dispassionate way by research. Some schools, for example, have started new "bi-lingual, bi-cultural" programs involving the use of American Sign Language with young children. It is imperative that we do an analysis of these programs and set up protocols in a variety of other settings as well to permit a more thorough understanding of how deaf children can best acquire the mental tools they will need to become educated and productive people.

In general, there is a great deal of research that needs to happen at the classroom level. It is important that we learn to identify and understand success in

the classroom. Recent research, for instance, has spotlighted the importance of various forms of interactive teaching styles. We need to identify teachers who are particularly effective at teaching deaf children, with the eventual goal of training others with successful techniques. Likewise, we must try to understand how the most effective deaf and hearing teachers make use of the visual abilities of the students. We must focus on the students and the cognitive strategies that they use to read and to retain information. Understanding effective cognitive strategies is a first step to informing educational practice.

The population of deaf and hard of hearing students is a heterogeneous one, and the challenges faced in educating minority children within this population are particularly striking. How can minority achievement be enhanced? How can multi-cultural perspectives inform educational policy?

One area of concern is the adequacy of support services for deaf students. One such service that has received the attention of a national task force has to do with educational interpreters. We need a great deal of research in this area to understand how children function with interpreters in the classroom. What are the strengths and the drawbacks of the use of interpreters? What is the "state of the art" in educational interpreting?

Another area of needed research and development has to do with the development of adequate assessment instruments for psychological and educational assessment. P.L. 94-142 called for the use of appropriate instruments to assess disabled students. It is well known that many standard instruments are not

appropriate for use with deaf students, yet there continues to be a dearth in this area. For example, there still exists no psychometrically valid criterion-referenced test for testing the academic skills of deaf students.

These suggestions have centered on children with early and significant hearing loss. But what of children with milder hearing losses? Some of these students may not even be in the special education network. They are indeed a forgotten group. There is ample evidence to suggest that hard of hearing students as a group face academic difficulties. We simply must do much more to understand the needs of these students and the communication difficulties they face.

These questions constitute but a sampling of the practical research required if we are to make progress in the education of deaf children. It is a "tall order" for researchers, but it is an agenda that deserves close attention.

Chairman OWENS. Thank you.

Dr. Richard Stoker.

Dr. STOKER. Chairman Owens and honorable members, my name is Richard Stoker, and I am director of Central Institute for the Deaf in St. Louis, Missouri.

Since 1914, Central Institute, a private, nonprofit, oral school, has helped thousands of profoundly deaf children acquire speech and lipreading skills, not only allowing them to communicate with virtually anyone in the communities in which they live but, more importantly, allowing them to lead educated, productive, normal lives.

I am pleased to appear before you today to share with you my testimony on research findings in the field of education for the deaf, particularly with regard to variables that influence the educational performance of deaf children.

As a person born deaf, and as one who has been taught in the U.S. public school system during virtually all of my educational life, I have a profound concern for the status of education for deaf children in this country today. The treasure of knowledge and education that has been opened to me by the labors and wisdom of my teachers and my parents is in danger of becoming unavailable to deaf children in the America of the 1990's.

There are four factors which I believe to be of vast importance in influencing the educational performance of deaf children. One of the highest priorities of any educational system for deaf children in America ought to be to have the children who pass through the system emerge with the highest possible level of English language literacy.

The general problems of deaf individuals in becoming highly literate in English are undoubtedly well known to this committee, so I will not elaborate. The solutions to the general problems are less obvious. I would like to expand on this in a moment.

The second factor is that a successful educational system for deaf children requires, even demands, the cooperation of the family. Unfortunately, in our modern society, this is far from being a given.

The third factor is that a successful educational system for deaf children needs to treat children as individuals, having unique learning styles, personalities, and levels of intrinsic and extrinsic motivation.

The last, and probably the most difficult, is that the products of a successful educational system for deaf children need to emerge into a society that is prepared to offer them valid opportunities to advance socially, economically, and emotionally, solely according to their individual abilities and drives.

Dr. Snow has presented important information regarding recommendations for research made by a working group of individuals concerned with the needs of hearing-impaired individuals. I will limit my comments to just a couple of the many needs that were identified by this committee, of which I was honored to be the chairman.

Research tells us that deaf children can learn to read if early and persistent efforts are made to help them do so. At Central Institute for the Deaf, we have consistently been able to help deaf

children read at levels that are commensurate with their hearing peers.

Recent results of a study of 100 17-year-old, profoundly hearing-impaired youngsters showed that these youngsters had reading skills that were well above the average for hearing-impaired youngsters of that age. The orally educated children also performed significantly better than a matched group of deaf children educated in another popular educational method.

These children were reading at levels in many cases comparable to their hearing peers, allowing them the option to confidently proceed with their postsecondary educational plans and to become part of a hearing world.

Another important factor involved in maximizing educational outcomes of deaf children is that of individualizing the educational program. EPIC, an important study at Central Institute funded by the Department of Education in the 1980's, demonstrated that, when individualization of the curriculum and concentration of the teaching effort was put into place, deaf children were able to achieve reading and other academic skills very close to those of hearing children of the same age.

Following the results of the EPIC study, the CID school was converted to the use of educational concentration and individualization. The overall achievement levels of our deaf students since that time have confirmed the vital importance of these fundamental factors.

To summarize, research has provided direction for making decisions about which variables assist us in maximizing educational outcomes for deaf children. Skilled instruction in reading, the creation of an environment where reading is encouraged and respected, and the concentrated application of knowledge of how to teach spoken language to deaf children based on individual needs, aptitudes, and work habits are the endeavors that produce the desired results.

Applying these principles has allowed CID to produce educational results in our student body that have been recognized as exemplary by the U.S. Department of Education in their Excellence in Education Award, which is based largely on the academic achievement of the children attending the school.

We are proud of that distinction, proud of our deaf students, and proud of our dedicated teaching staff. In an age when many make excuses and look for ever more sophisticated pedagogical paradigms to throw into the fray, we are proud to say that it can be done and that it is being done every day at schools like CID.

Thank you for your attention.

[The prepared statement of Richard G. Stoker follows:]

STATEMENT OF RICHARD G. STOKER, M.D.

Chairman Owens and honorable members: my name is Richard G. Stoker and I am Director of Central Institute for the Deaf in St. Louis, Missouri. Since 1914 Central Institute, a private, nonprofit oral school, has helped thousands of profoundly deaf children acquire speech and lipreading skills, not only allowing them to communicate with virtually anyone in the communities in which they live, but more importantly allowing them to lead educated, productive, normal lives. I am pleased to appear before you today to share with you my testimony on research findings in

the field of education for the deaf, particularly with regard to variables that influence the educational performance of deaf children.

As a person born deaf and one who has been taught in the U.S. public school system during virtually all of my educational life, I have a profound concern for the status of education for deaf children in this country today. The treasure of knowledge and education that has been opened to me by the labors and wisdom of my teachers and my parents is in danger of becoming unavailable to deaf children in the America of the 1990's.

There is no mystery here. There is no cloak of secrecy over the methods and procedures, the variables if you will, that allow deaf children to perform at high levels academically, socially, and economically. We see these methods being applied day after day in the classrooms of Central Institute, producing children who graduate with academic achievement comparable to their hearing peers. One does not have to be a scientist with a Ph.D. to grasp the essence of why more deaf children in the public school programs of America do not perform at high levels. In general terms, it is my opinion and that of my colleagues that we are suffering from a collective lack of will to excel. Society, in the form of our political leadership, school commissions, State boards of education, local administration and teachers together with the citizenry responsible for electing or paying the salary of these individuals, has abdicated its role in demanding (and paying the price for) excellence from deaf children. This also seems to be true for children in general, for the ills of our educational system for deaf children are but mirrors of the general ills of our public educational system.

In sports, we generally understand the consequences of mediocre preparation, poor personnel, poor attitudes and lack of short- and long-term goals. Such thing produce losers, excuses, apologists, complainers and bad attitudes. The same principles that apply in the world of sports apply in the world of education. Mediocre preparation of teachers, poor attitudes (e.g., deaf children cannot learn English) and a lack of short- and long-term goals (e.g., promoting students from grade to grade regardless of performance, promoting teachers by seniority and not teaching ability, retaining administrators on the basis of political skill, not results in the classroom) are in abundant evidence. What we have in education of the deaf in this country is, to use a sports metaphor, a cellar-dwelling team with no prospects.

With that as my background, I will now address what I perceive to be the major issues in research in deaf education. I will make a few broad assumptions. I realize that many in this field will not agree with my assumptions, but I learned long ago that compared to deaf education, the only area of human endeavor where more heat is generated and less light is thrown is the area of religion. It is my feeling that not even the political arena known so well to this committee is as hotly contested.

My first assumption is that one of the highest priorities of any educational system for deaf children in America ought to be to have the children who pass through the system emerge with the highest possible level of English language literacy. The general problems of deaf individuals in becoming highly literate in English are well known to this committee so I will not elaborate. The solutions to the general problem are less obvious. I will expand on this shortly.

The second assumption I will make is that a successful educational system for deaf children requires, even demands, the cooperation of the family. Unfortunately, in our modern society this is far from a given.

The third assumption I feel compelled to make is that a successful educational system for deaf children needs to treat children as *individuals* having unique learning styles, personalities, and levels of intrinsic motivation.

The last, and probably the most reckless assumption I will make is that the products of a successful educational system for deaf children will emerge into a society that is prepared to offer them valid opportunities to advance socially, economically and emotionally solely according to their individual abilities and drives.

In the world of real estate it is said that the three most important factors in buying a piece of property are: location, location, and location. In education of deaf children it is my observation that the three most important factors are: reading, reading, and reading. As a deaf infant I exercised a great deal of wisdom by choosing my parents wisely. I chose two people who not only read to me and to my siblings, but who themselves read and who provided ample opportunities to encounter books and the pleasant experience of reading them. My early encounters with books and my relatively early development of reading ability was a key to unlocking the treasure chest of literacy. After learning to read, I learned not only from my immediate environment, but from countless minds across the boundaries of time.

Research tells us that deaf children can learn to read if early and persistent efforts are made to help them do so. At Central Institute for the Deaf we have consist-

ently been able to help deaf children read at levels commensurate with their hearing peers. Recently, results of a study (Geers, 1990) of 100 orally educated profoundly hearing-impaired youngsters showed that these kids have reading skills well above average for hearing-impaired youngsters in general. The orally educated children also performed significantly better than a matched group of deaf children educated in another popular educational method. In other words, most of the oral deaf children studied were reading at levels comparable to their hearing peers, allowing them the option to confidently proceed with their postsecondary educational plans and to become part of the hearing world.

Another important factor involved in maximizing educational outcomes of deaf children is that of individualizing the educational program. EPIC, an important study at Central Institute funded by the Department of Education (Moog, et al., 1985), demonstrated that when individualization of the curriculum and concentration of the teaching effort was put into place, deaf children were able to achieve reading skills very close to those of hearing children of the same age. Following the results of the EPIC study, the CID school was converted to the use of educational concentration and individualization. The overall achievement levels of our deaf students since that time have confirmed the vital importance of these fundamental factors.

To summarize, research has provided direction for making decisions about which variables assist us in maximizing educational outcomes for deaf children. Skilled instruction in reading, the creation of an environment where reading is encouraged and respected, and the concentrated application of knowledge of how to teach spoken language to deaf children based on individual needs, aptitudes and work habits are the endeavors that produce the desired results. Applying these principles has allowed CID to produce educational results in our student body that have been recognized as exemplary by the U.S. Department of Education. We are the only school for deaf children to receive the Department's Excellence in Education Award, which is based largely on the academic achievement of the children attending the school. We are proud of that distinction, proud of our deaf students, and proud of our dedicated teaching staff. In an age when others make excuses and look for ever more sophisticated pedagogical paradigms to throw into the fray, we are proud to say that it can be done and is being done every day at CID.

This is not to say that research is not needed in the field of education for deaf children. To the contrary, *good* research is needed more than ever to help educators teach children who do not have the excellent advantages enjoyed at schools like CID. Not every child has a nurturing and caring family environment. Not every child comes from a home where English is the lingua franca. Not every deaf child is equipped to deal with the tremendous challenge of learning English the time-tested, but hard way used at CID. There are undoubtedly technologies and techniques that can help the process move along faster and more efficiently. We have an enormous commitment to research at CID, where research laboratories have been a part of the culture from the very beginning. Research promotes an inquiring and discovering attitude. If managed well, it advances the core of knowledge more quickly than the evolutionary trial and error implied in most educational programs. Cochlear implantation, computer-assisted learning, interactive telecommunication networking, and even the lowly FAX machine provides opportunities for scientific evaluation of their use in promoting more efficient learning of English and the sequelae of such knowledge in the form of academic understanding.

It is the springtime of the year, the spectacle of the summer Olympics is before us and the eternal hopefulness of thousands of young athletes has been stirred. Many will strive for the elusive gold medal, but only one individual or one team will climb the stand and bask in the realization that they, for that moment at least, have overcome all of the obstacles. How much more glorious it will be when I or any of us can look the parents of a newly born and newly diagnosed deaf child in the eye and say, "Our educational system is ready to take your child as far as his innate abilities will allow him to soar." Thank you.

Chairman OWENS. Thank you.

Dr. Donald Moores.

Dr. MOORES. Starting about 12 years ago at Gallaudet University we initiated a program of research on public schools. We wanted to look at three basic questions that have been concerning educators of the deaf for generations. Primarily, these questions are: Where do we teach deaf children? What do we teach deaf children? And how do we teach deaf children?

We started by looking at patterns of school placement, starting back in World War II, and we have updated this to the present time. Very briefly, at the end of World War II, education of the deaf was essentially a residential school phenomenon. Approximately 75 percent of deaf children attended residential schools. Many of them were public residential schools, and also many were private residential schools.

Another 25 percent of children were in public day schools for the deaf. Essentially, these were children attending schools separate from hearing children in large cities. Large numbers of these children were of immigrant background.

Over the last 45 to 50 years there has been a complete evolution or revolution in placement. By 1970, more than half of all deaf children were attending public school programs, not residential schools. So, even prior to implementation of P.L. 94-142, education of the deaf had begun a sea change.

At present, the information that we have is that approximately three-quarters of children are now in public school programs. Of the somewhat less than one-fourth of children in residential schools, our information suggests that approximately one-third of these commute from home on a daily basis. So we're dealing with a residential school population of residential students of about 15 percent of our population.

Also, especially since the implementation of Public Law 94-142, the public aspect of education of the deaf has become much more important. So the percentage of children who are attending private residential schools for the deaf has decreased tremendously in comparison to the types of placements.

Carl Moore quoted some figures from a book of mine, "Educating the Deaf" 1987, on the numbers of minority students in programs for the deaf. They are somewhat different right now, but, as a point of reference, I would like to say that back in 1945 only 6 percent of deaf students were identified as nonwhite. These were primarily black students attending segregated residential schools for the deaf. There were only about 1,000 black students identified across the United States. More than 800 of these students were in separate schools for the black deaf, or for the Negro deaf.

At present, the number or percentages of black students in programs for the deaf in the United States is stabilized around 18 or 17 percent. The number of Hispanic students has increased, however; that's now approximately 14 percent, Pacific/Asian-American about 3 percent, and other nonwhite categories about 3 percent.

So, in coordination with what Dr. Karchmer said, we're dealing with about a 63 percent white deaf non-Hispanic enrollment, a 20 percent minority nonblack enrollment, and a 17 percent black enrollment.

We started 10 years ago to look at four large school programs for the deaf in the United States. We picked San Antonio, Texas; Dallas, Texas; Philadelphia; and Boston, primarily because they represented different ethnic groups and different types of State support for educating deaf children.

For example, in the State of Texas, programs for the deaf are supported at the State level. In Massachusetts, each individual community has to develop its own special education program. So

there's quite a bit of variation. We were also interested in Philadelphia because it was undergoing several litigation cases regarding school placement of deaf children.

We then expanded to work with eight school districts across the United States, including county programs and other large school districts, and we then expanded to 16 programs. We have information now from about 40 different public school programs and 10 to 12 residential schools in the United States.

On the positive side, as Dr. Karchmer mentioned, there is some improvement in the school achievement of deaf children. It's pretty clear that there is improvement. We also, for the first time, find that a majority of parents are able to communicate to some extent with their children effectively.

We also find that, regardless of school placement, deaf children seem to be well adjusted, at least using the measures that we have developed and the measures that we have adapted. So the social/emotional adjustment of deaf children appears to be very good.

Also, it seems to us that the reading level of deaf children is much better than people have decided on the basis of standardized tests. For example, you've heard again and again—and in the field we do this frequently—reference to the third- or fourth-grade reading level of deaf children. We have found in our work that, if we go past the standardized reading tests, the achievement of the deaf child, as far as reading goes, is probably quite a bit higher.

The tests underestimate their reading ability because they depend heavily upon the grammatical English skills of the deaf child. So, for example, if we—we've done this—give a deaf child who is supposedly reading on the 5th-grade level 10th-grade material and ask that child to summarize it for us, and ask questions about it, we find they usually can get meaning from a 10th-grade text.

What we do find, on the other hand, is their writing skills are much lower than people might anticipate. We attribute this directly to the lack of writing instruction for deaf children. We find the same thing when we deal with other school subjects, such as mathematics. And in our comparisons of deaf children and hearing children time-on-task—and by that I mean how much time is devoted in the school day to mathematics, to science, and to other academic subjects—we find more time is given to hearing children in academic materials.

Some of the research that we have done looked at deaf children in the same school settings—for example, in Dallas; San Antonio; San Diego; Bergen County, New Jersey, et cetera—some of whom were integrated with interpreters for mathematics and some who stayed in the same class with teachers of the deaf. Again, consistent with what Dr. Karchmer said, we found that the children who were integrated with interpreters increased their mathematics at a higher rate than the children in the separate classes.

We then went back and analyzed what was going on in the classrooms. We found that in a typical 45- or 50-minute math class, less time was spent teaching math in the class for the deaf. We also found that the teachers of the deaf didn't have training in mathematics; they gave less homework, they asked less difficult questions, they gave less feedback.

Fortunately, with some relatively basic training, the teachers of the deaf could raise the level of their mathematics instruction. But, essentially, most teachers of the deaf have been trained to concentrate on communication, on speech, speechreading, auditory training, and now, of course, on different types of manual communication modes and spend less time with the academic achievement of their children.

Overall, we find that the larger suburban programs seem to be doing quite well with their children. They are able to offer them ranges from oral-only communication to different types of manual communication; from complete integration to self-contained classrooms. They seem to be working very effectively so long as they have a large population base.

Many of the residential schools are doing quite well now—and I do have the impression that the drop in population is leveling off—and are serving an expanded role on a statewide basis as a resource for other programs.

The programs we find that are in the greatest difficulty are the large city programs. It has reached the state of crisis. We have worked very closely, for example, with the San Antonio program, and we also have worked with the program in Boston, Massachusetts, two public schools for deaf children in widely separated parts of the United States that have gone through the same type of deterioration.

Over the last 10 years, their enrollment of deaf children has decreased to about 50 percent of what it had been. This is primarily because the suburban programs have been established and are offering services now that they didn't offer before. The large center city programs are seeing a deterioration of resources. They don't have as many children to provide the options that they did in the past. And they do not have access to the technology that many of the suburban programs have.

So, very briefly, my recommendations would be: (1) much more concentration on improving academic achievement of deaf children, with higher expectations, especially with concentration on reading and writing; (2) much more attention to assessment, because the assessment techniques that we have used have been based on hearing children and are certainly inadequate, so far as I'm concerned, with reading, and also in psychological assessment of children; (3) statewide coordination of services so that the hemorrhaging of support for children in the large cities can be stopped, and coordination all the way from services for children in integrated mainstream settings all the way through residential schools.

Thank you.

[The prepared statement of Donald F. Moores follows:]

Least Restrictive Environment
Donald F. Moores
3/10/92

Education of the deaf in the United States is in the final stages of a revolution in educational placement that began almost fifty years ago, shortly after the end of World War II. At that time about three-quarters of deaf children attended residential schools for the deaf. Currently, residential school enrollment accounts for less than one-quarter of deaf students. Most educators of the deaf erroneously believe that the move away from placement in separate residential and day schools for the deaf is a relatively recent phenomenon largely attributable to the passage in 1975 of PL 94-142 and its Least Restrictive Environment requirements. Examination of enrollment patterns, however, indicates that the majority of deaf children were in attendance in local public school programs before the enactment of the law and that by 1975 the trend was irreversible. For illustration, we examined enrollment data from the American Annals of the Deaf for programs at four points in fifteen year intervals from 1945 to 1990 (1945, 1960, 1975, and 1990). Since Public Law 94-142, the Education of All Handicapped Children Act, was passed in 1975 we were able to assess the impact of the law on trends of educational placement of deaf children.

In 1945 76% of children were in residential schools and 24% in public day schools (Figure 1). Between 1945 and 1960, enrollment increased by about 10,000 children, but public residential schools accounted for only one-third of the increase. The greatest growth occurred in public day schools and day classes. By 1960, 33% of deaf children attended local public schools and the percentage of children attending residential schools decreased from 76% in 1945 to 62%.

During the period 1960 to 1975 the trend accelerated, although it was somewhat blurred by a tremendous enrollment increase. In addition to a surge in the general population, with a concomitant rise in the number of deaf children, the process of closing segregated schools was completed and more minority children had access to education. There was also the world-wide Rubella epidemic of the mid-1960s which greatly increased the number of deaf children born during the period. There was a local public school increase of more than 20,000 deaf children (9,132 to 29,163) in this fifteen years. To put it in perspective, the GROWTH in enrollment in public day programs from 1960 to 1975 was greater than the TOTAL enrollment in all programs for the deaf in 1946. This growth was also greater than the TOTAL public residential school enrollment in 1975. In terms of percentages, residential school enrollment dropped from 62% to 38% of the total. These data clearly indicate that by the time of enactment of PL 94-142, the majority of deaf children were enrolled in local programs for the deaf.

The trend continued from 1975 to 1990, by which time only 23% of deaf children were enrolled in residential schools. Of the remainder, 67% were in day classes in schools also attended by hearing children and 10% commuted to separate day schools for the deaf. Public day class enrollment increased by 9,000 students while the number attending residential schools was cut in half, from 20,000 to 10,000. Separate day school enrollment fell about three thousand students during the same period.

The drop in residential school enrollment takes on added significance if we remember that currently approximately one-third of children attending residential schools do not live at the schools but commute from home on a daily basis. Thus, only about 15% of deaf students today are residential students at residential schools. Also, most residential schools are adopting a "home-going" policy, in which students are sent home frequently, sometimes every weekend. Residential schools no longer function in loco parentis. The role of parents and schools are undergoing fundamental changes.

The results of this placement revolution will not be fully understood or realized for a long period of time. Suffice it to say that the impact on the American deaf community will be dramatic. Historically, residential schools served as socializing and enculturation agents for deaf children, provided access to deaf mores and traditions, and served as a vehicle for the transmission for American Sign Language. The influence of residential schools for the deaf has been greatly attenuated, while that of parents has increased proportionately. Because more than 90% of deaf children have hearing parents, the impact of the changes in educational placement will have profound implications for the composition and world view of the deaf community well into the 21st century.

At this point a comment should be made on the ethnic/racial composition of programs for the deaf in the United States. In 1945, only 6% of deaf students were identified as Black, 80% of whom attended 16 racially segregated schools and programs. It was erroneously assumed that deafness was far less prevalent in the African American population, when in fact large numbers of children never attended school or had very limited school attendance. At present African American children account for 17% of the deaf student population, Hispanic Americans for 14%, and Asian/Pacific Americans for 3%.

Briefly, prior to 1945, deaf children could be found in one or two educational placements. Most attended residential schools. About one-quarter attended day schools for the deaf in large cities and lived at home. An unknown, but probably very small, number of children attended public school classes without any formal support services. The present situation is much more complicated. Only one-quarter of students now attend residential schools and many of these go home daily. Another 10% attend separate day schools for the deaf. The remaining 67% attend the same public schools as hearing children, but there are several patterns of placement. Most of the children in this category attend urban, suburban, county, or multi school district programs for the deaf that draw from a large population base. In most of these programs there is a range of options including separate classes for the deaf, resource rooms in which deaf students spend part a day with a teacher of the deaf and attend one or more classes-usually with an interpreter-with hearing students, and support services on an individual basis for deaf students attending all academic classes with hearing students. A limited number of deaf students attend small public school programs for the deaf, which we define as 20 students or less, usually in relatively sparsely populated areas. Despite the concerns expressed in the field, we have found little evidence of deaf children isolated in the mainstream. Placement of a child with a profound hearing loss in isolation appears to be rare. We estimate that when this occurs, in 90% of the cases the child has a mild, moderate, or severe hearing loss. With profound hearing loss, the placement usually is with parental and school agreement.

In order to better understand the complexity of the situation, we began a public school program of research at Gallaudet in 1981 and plan to continue it for the foreseeable future. We started with four urban high school programs for the deaf in large cities that reflected geographic and demographic diversity--Boston, Dallas, Philadelphia, and San Antonio. With the additional help of federal grants, we were able to enlarge the number of cooperating programs and expand the scope of our work to include all grade levels. Also we received a Gallaudet four-year Presidential Award to establish a cooperative network of 16 large public school programs across the United States to identify needed areas of investigation and to conduct research. Recently we concluded a three year study funded by the National Institute on Disability and Rehabilitation Research on the "Dissemination of a Model to Create Least Restrictive Environments for Deaf Students," involving seven residential schools and twenty-one local public school programs for the deaf. We developed and disseminated suggested guidelines for urban and suburban programs and for residential schools serving states with significant rural populations.

We plan to continue our public school research at the current level, using a mixture of Gallaudet and other resources. Progress on research to date will appear in a book, "Toward Effective Public School Programs for Deaf Students" to be published in May by Columbia University/Teachers College Press and edited by Dr. Thomas Kluwin of the Gallaudet Center for Studies in Education and Human Development, Dr. Martha Gaustad of Bowling Green State University, and me.

Although deaf children in all placements continue to lag behind hearing children in reading, writing, and academic achievement, we view the present situation with guarded optimism. Our first impression is that the public schools clearly do not equate Least Restrictive Environment with "mainstreaming" when dealing with deaf children. The schools have moved past the federal interpretation to the point that social factors are also considered and least restrictive environment is thought of as part of the appropriateness component of the individual education plan. As a result, we have recommended that the Department of Education liberalize its regulations concerning LRE to reflect developments that have already taken place in education of the deaf. Some school administrators claimed that there has been pressure from the federal level to equate integration with LRE.

Another positive set of results suggests that the self concept of deaf children in all different settings, including residential, is comparable to hearing norms. This is a little know fact that should be more widely acknowledged. Also, for the first time, it appears that more than half the children have parents able to communicate effectively to some extent using signs with their children. The percentage is somewhat higher for children attending residential schools. This may be due in part to the fact that, on the average, children in residential schools tend to have greater hearing losses.

We find changes in placement and classroom communication related to age. The percentage of children using some kind of manual communication increases as children grow older. We believe this is due to several factors. First, many parents are reluctant to sign with their young children but become aware of its benefits over time. Second, children who may be able to handle material effectively in the elementary grades may need manual communication to deal with the higher demands of secondary school. Consistent with the trends in manual communication, there is a tendency to cluster deaf children together more as they move through the educational system. Children who start off in integrated settings may end up in high school resource rooms and children who start off in resource rooms may end up in self-contained classrooms or in residential schools. We believe there are both social and academic reasons for this. Many deaf children feel a need for social interaction with other deaf children as they mature. Also, our school systems require greater specialization and concentration of resources as children leave the elementary grades. For deaf children this creates a need for larger concentrations of deaf children from grade seven onwards.

In the case of residential schools, several factors inducing change are at work. In the northeast, some residential schools for the deaf have evolved into day schools in the past generation, with students commuting from home. These include the Rhode Island School for the Deaf, the Pennsylvania School for the Deaf, and the Lexington School for the Deaf in New York. Still, New York and Massachusetts each has four publicly supported state residential schools for the deaf. By contrast, Texas, with 10% of the children enrolled in programs for the deaf in the United States, has only one residential school, and California, with another 10%, has only two. A deaf child in Massachusetts or New York is more likely to attend a residential school than one in California or Texas.

The mission of residential schools also seems to have broadened. Overall, we have noted a tendency for residential schools for the deaf to become state-wide resources, providing psychological, educational and audiological evaluation, inservice training, and direct services. We encourage the continuation of this process.

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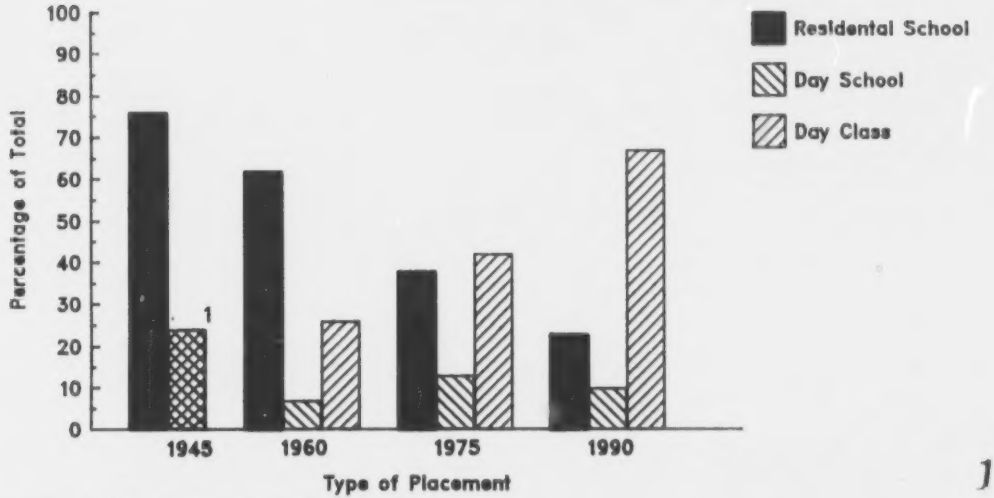
We have found several multidistrict public school programs to be quite effective in the range of options they offer and in the delivery of services. These may be organized at the county, intermediate school district, or vocational school district level. Terminology varies by state but the key is to have a large enough population and resource base to offer appropriate options on an individual basis.

On the other hand, the situation appears desperate for local programs in many of our larger cities. We have worked with programs that in the past served deaf children in a metropolitan area. As suburbs developed their own programs, enrollment has shrunk in these city programs, with a concomitant drop in instructional staff, support services and educational options, accompanied by deteriorating physical plants and lowered financial support. Disproportionate numbers of children in large city programs for the deaf grow up in poverty and the situation has reached a crisis stage. The need for more resources is immediate and we believe that effective programming necessitates cooperation and planning on a multidistrict, metropolitan level.

In summary, comprehensive programs for deaf children should be marked by flexibility and should offer alternatives in instructional mode of communication, placement, and coursework. Placement opportunities should range from residential to support for children in regular education classes. We have argued that a population base of 5,000,000 is an ideal beginning point. This would translate into a school age population of approximately 1,000,000, of whom one in a thousand, or one thousand children would be classified as deaf. At each age level, there would be somewhat more than 50 children. Essentially, then, provision of educational services for the deaf should be at the state-wide level and perhaps should involve two or more states in less populated areas. Only in this way will we approach the ideal of a free appropriate, individualized, public education for deaf children in America.

Figure #1

Enrollment Trends in Programs for the Deaf
1945 to 1990



1. Includes both Day School and Day Class
2. does not include "Other" placement (eg. programs for multi-handicapped)

Chairman OWENS. Thank you.

Dr. Judith Harkins.

Dr. HARKINS. Chairman Owens and members of the subcommittee, I thank you for the opportunity to speak to you today about technology in the education of deaf children.

I am director of the Technology Assessment Program at Gallaudet University. Our program conducts studies with the goal of providing useful information to businesses, consumers, and government regarding visual technology for deaf people, visual technology being the main kind of technology used by deaf adults.

Some people call deafness a communication handicap. Within Gallaudet University we have another definition of communication handicap: it is not being on the campus electronic mail system. Over the past several years, electronic mail has completely revolutionized the way people do business at Gallaudet. Communication among faculty, staff, and students has increased. Students have become hooked on electronic mail and are reading and writing more than ever.

Such communications revolutions are becoming commonplace throughout society. Many of these changes—fax technology, electronic mail, and telephone relay services—are improving the lives of deaf and hard-of-hearing people as well as hearing people. I'm sure a congressman or a congresswoman without a fax machine is also communication handicapped.

In support of the communications revolution, Congress has passed legislation so strong and effective that it is impossible to overstate its importance. A little over 3 years ago, Congressman Owens gave the keynote address at a conference my department held at Gallaudet. The conference was called "Speech to Text: Today and Tomorrow," and the program focused in part on telephone relay service, which existed in only a few States at the time.

Mr. Owens inspired the audience with a rousing speech, telling them that nationwide relay service was possible in our country. I have to admit that, at the time, I did not dream that nationwide relay service would be fully implemented within 5 short years of the conference. But Congressman Owens was right. The U.S. Congress made it a reality. And I have to take this opportunity to thank you for it and put it in the record.

As technology changes, we need to keep a watch for its impact on deaf and hard-of-hearing people. For example, one of today's problems is voice mail and interactive voice systems, which are taking over the hearing world of telecommunications. All of us have to press 1 for this, and press 2 for that these days. But these systems are not accessible to text telephones or to telephone relay services.

Tomorrow other barriers will arise because of new technology. The challenge is to continually reexamine the issue of technology and do whatever is necessary to keep us moving in a positive direction.

In addressing technology in the education of deaf children, I would like to speak about three categories: technology for instructional enhancement, access technology, and telecommunications technology.

Technology for instructional enhancement includes a variety of applications of computers, technology for materials development so

that teachers can present information in new ways to children, interactive videodiscs, computer-controlled video for self-guided instruction, and many other technologies. Specialized instructional technology is becoming increasingly important in schools and programs for deaf children, because educators believe that it motivates children and permits them more autonomy in the learning process.

In its report to Congress, the Commission on Education of the Deaf did a good job of reviewing technology holding potential in instruction. Instructional technology that is now at the cutting edge is among the most exciting to come along in a long time. Computer control of videodiscs has been demonstrated as a way of juxtaposing sign, lipreading, and text in creative ways, and letting children direct their own learning.

However, the equipment is prohibitively expensive for all but a few schools serving deaf children. At lower cost, captioning software and consumer-grade video cameras are making it possible for teachers, and even students, to create and to caption videotapes for classroom use. We are working with the Marie Katzenbach School for the Deaf in New Jersey with my program to make video cameras and simple captioning systems a part of the teacher's toolbox for making materials for young deaf children.

The teachers make simple, short videos and caption them in ways appropriate for young children who do not benefit fully from traditional caption materials. Some easy-to-use software that was developed at WGBH's Caption Center in Boston is allowing elementary school children to write their own captions. Both of these projects are funded by the U.S. Department of Education under the Media Services and Captioned Films Program.

For these types of technology, the problems I believe relate to the more general erosion in funding of education. The stock of such basic instructional technology as videocassette recorders, televisions, and computers is insufficient for the technology to reach all children and to reach its potential. And, as I said before, the more advanced technologies are still not affordable.

Moving to the category of access technology, this covers devices and systems that provide access to the spoken word. Captioning equipment, captioning decoding equipment, computer-assisted notetaking, assistive listening devices and systems, and text telephones are examples of access technologies. Without such technology, deaf and hard-of-hearing students are being denied equal access under several existing Federal laws.

Persistent problems exist with access technology in school programs in which only a few deaf or hard-of-hearing children are enrolled. For example, closed caption decoders are often unavailable for displaying captions of video materials. I realize the Circuitry Act will, we hope, eliminate this problem probably in about 10 years, as the stock of televisions is replaced by televisions that have the decoder circuitry.

Instruction video may be selected without regard to its being captioned. The newer audio-visual materials, such as videodiscs, are rarely captioned. This can have a negative impact on deaf and hard-of-hearing students in the mainstream as well as in special schools where these materials could otherwise be very helpful.

Listening systems are not available in all of the educational environments in which they could be used by children. Although the mandate to provide such technology exists in law, the mechanisms for achieving the access may need to be examined. It would appear that children would have to report the problem to educators or parents, and often students, parents, and educators are unaware of what can be done, so the problems may persist.

The third category, telecommunications technology, allows schools and programs to share expertise, as in distance learning, and allows students to overcome barriers to communication with other children. Beyond a basic telephone, telecommunications can provide text communication to people around the world through electronic networks. Besides motivating children to read and write, electronic networks have advantages, such as providing information, services, and social contact.

Children should be encouraged to know how to use fax machines and telephone relay services from an early age. Deaf and hard-of-hearing are discovering new capabilities through telecommunication technology, but many if not most, deaf children are unaware of what is possible for them today.

It is possible that we could be facing two worlds of technology for deaf people: the world of the deaf adult, and the world of the deaf child. The deaf adult's communication environment has become richer, more powerful, more diversified in a very short period of time. The child's environment may be destined to the limitations of the past. Technology in education is a popular cause in society, but for deaf and hard-of-hearing children it is more than that, a marker of basic entry to society. I hope the Education of the Deaf Act can address the needs of children for access to this important resource.

Thank you.

[The prepared statement of Judith E. Harkins follows:]

TESTIMONY
TECHNOLOGY AND DEAF CHILDREN
Prepared by Judith E. Harkins, Ph.D.
Technology Assessment Program
Gallaudet University
March 10, 1992

Some people call deafness a communication handicap. Within Gallaudet University, we have another definition of communication handicap. It is "not being on the university's electronic mail system."

Over the past several years, electronic mail has completely revolutionized the way people do business at Gallaudet. Communication among faculty, staff, and students has increased. Students have become hooked, and are reading and writing more than ever.

Such communications revolutions are becoming commonplace throughout society. Many of these changes--fax technology, electronic mail, telephone relay service--are improving the lives of deaf and hard of hearing people, as well as hearing people. I'm sure a Congressman or Congresswoman without a fax is also communication handicapped.

In support of the communications revolution, Congress has passed legislation so strong and effective that it is impossible to overstate its importance. A little over three years ago, Congressman Owens gave the keynote address at a conference my department held at Gallaudet. Called "Speech to Text: Today and Tomorrow," the program focused in part on telephone relay service, which existed in only a few states at the time. Mr. Owens inspired the audience with a rousing speech, telling them that nationwide relay service was possible in our country. I have to admit that, at the time, I did not dream that a nationwide relay service would be fully implemented within five short years of his speech. But Congressman Owens was right. The U.S. Congress made it a reality.

As technology changes, we need to keep a watch for its impact on deaf and hard of hearing people. For example, one of today's problems is voice mail and interactive voice systems, which are taking over the hearing world of telecommunications but which are inaccessible to text telephones and to telephone relay services. Tomorrow other barriers will arise because of new technology. The challenge is to continually re-examine the issue of technology and do whatever is necessary to keep us moving in a positive direction.

In addressing technology in the education of deaf children, I would like to address technology in three categories: technology for instructional enhancement, access technology, and telecommunications technology.

Technology for instructional enhancement includes a variety of applications of computers, technology for materials development, interactive videodisk for self-guided instruction, and many other technologies. Specialized instructional technology is becoming increasingly important in schools and programs for deaf children, because educators believe it motivates children and permits them more autonomy in the learning process.

In its report to Congress, the Commission on Education of the Deaf reviewed technology holding potential in instruction. Instructional technology at the cutting edge is among the most exciting to come along in a long time. Computer control of videodisks has been demonstrated as a way of juxtaposing sign, lipreading, and text in creative ways, and letting children direct their own learning. However, the equipment is prohibitively expensive for all but a few schools serving deaf children.

At lower cost, captioning software is making it possible for teachers and even students to create and to.caption videotapes for classroom use. We are working with the Marie Katzenbach School for the Deaf in New Jersey to make video cameras and simple captioning systems a part of the teacher's toolbox for making materials for young deaf

children. The teachers make simple, short videos and caption them in ways appropriate for young children, who do not benefit fully from traditional captioned materials. Easy-to-use software developed at WGBH's Caption Center in Boston is allowing elementary school children to write their own captions. Both of these projects are funded by the U.S. Department of Education under the Media Services and Captioned Films Program.

For these types of technology, the problems relate to the more general erosion in funding of education. The stock of such basic instructional technology as video cassette recorders, televisions, and computers is insufficient for the technology to reach its potential. More advanced technologies are not affordable for many schools and programs.

The category of **access technology** covers devices and systems that provide access to the spoken word. Captioning equipment and the process of captioning, computer-assisted notetaking, assistive listening devices and systems, and text telephones are examples of access technologies. Without such technology, deaf and hard of hearing students are being denied equal access under several existing Federal laws.

Persistent problems with access technology exist in school programs in which only a few deaf or hard of hearing children are enrolled. For example, closed caption decoders are often unavailable for displaying captions on video material. Instructional video may be selected without regard to its being captioned. Newer audio-visual materials such as videodisks are rarely captioned, and this can have a negative impact on deaf and hard of hearing students in the mainstream.

Listening systems are not available in all the educational environments in which they could be used by hard of hearing children. Although the mandate to provide such technology exists in law, the mechanisms for achieving the access may need to be examined. It would appear that children would have to report the problem to educators or

parents; and since students, parents, and educators are often unaware of what can be done, these problems may persist despite legislation.

The third category, **telecommunications technology**, allows schools and programs to share expertise (as in distance learning) and allows students to overcome barriers to communication with other children.

Beyond the basic text telephone, telecommunications can provide text communication to people around the world through electronic networks. Besides motivating children to read and write, electronic networks have advantages such as providing information, services, and social contact. Children should be encouraged to know how to use fax machines and telephone relay services from an early age. Deaf and hard of hearing adults are discovering new capabilities through these telecommunications technologies, but many if not most deaf children are unaware of what is possible for them today.

The erosion of funding of education is resulting in two worlds of technology use: the world of the deaf adult, and the world of the deaf child. The deaf adult's communication environment has become richer, more powerful, and more diversified. The child's environment may be destined to the limitations of the past. Technology in education is a popular cause in society, but for deaf and hard of hearing children it often marks the basic entry to society. I hope the EDA can address the needs of children for access to this important resource.

Chairman OWENS. Thank you.

Dr. Harkins, the first shall be last; the last shall be first. Do you know any of the other gentlemen here; have you met them before today?

Dr. HARKINS. Yes, I have, every one.

Chairman OWENS. I said "other gentleman." Do you know the gentlemen? Have you had discussions with them about technology and its role in instruction?

Dr. HARKINS. Perhaps with the exception of Dr. Snow, although I had the opportunity to make a presentation to NIDCD on visual technology. But I certainly have with Dr. Stoker, Dr. Moores, and Dr. Karchmer.

Chairman OWENS. Do you find it significant that neither of them mentioned instructional technology?

Dr. HARKINS. No, I don't, because they had 5 minutes to cover educational placement and education of deaf children, which is a very complex issue. So I don't find that surprising.

Chairman OWENS. There are things going on with technology, instructional technology, that you are aware of?

Dr. HARKINS. Yes, there are in education of deaf children, yes.

Chairman OWENS. How expensive is "expensive?" When you say instructional technology is very expensive, how expensive is that?

Dr. HARKINS. In speaking about the high-cost items, I was talking specifically interactive videodiscs where a computer controls a videodisc player, and special videodisc materials have been developed. Systems like that cost in the range of $5,000 to $12,000 at the present time.

Chairman OWENS. $5,000 to $12,000, and that would service how many students?

Dr. HARKINS. That would service one or two students at a time. That's the problem with their high cost. They are student-centered.

Chairman OWENS. When you say "at a time," do you mean, in the course of a school day only one or two students would be served?

Dr. HARKINS. In the course of a school day, if you say 1-hour sessions, perhaps six children would be served in a school day. In other words, some of these technologies are student-centered, and that's what's exciting about them. But what it means is you have to have more of them than you do when you have a technology that is teacher-centered, say, for materials development, where you might have one captioning set-up, where you have a special decoder, software, and so on, so that teachers can make encaptioned videos.

But when you're at the level of the student, you need enough stations so that the students can get their hands on them also, and that's where the high cost comes in.

Chairman OWENS. To the rest of the panelists, do you believe that instructional outcomes would be greatly improved if we spent that money? Would it make a big difference?

Dr. KARCHMER. May I comment?

Chairman OWENS. Yes.

Dr. KARCHMER. I certainly would like to say that in my written testimony I have talked about the value of research on the use of technology for improving outcomes. I think it's a very important

area of endeavor, and certainly the allocation of funds to accomplish that would be of great value in my estimation.

Dr. MOORES. One of the interesting things that has happened since the introduction of telecommunication devices for the deaf has been, at least from my perspective, improvements in the literacy skills of deaf individuals, especially adults. There has been some work on the use of a teacher-controlled system by which children sitting around a number of computers can interact with each other and with the teacher to improve their written communication skills, their literacy skills.

We're in the process now of developing, on a pilot basis, what we are tentatively calling a mediated classroom. We're not thinking about an overly mediated classroom, but the use of technology within a classroom by which a teacher and children can interact in effective ways to improve their academic achievement and literacy.

Chairman OWENS. How much instructional technology do you have at Gallaudet at this point?

Dr. MOORES. I think Gallaudet has quite a bit of instructional technology. I think the question that we're addressing right now is, how can this be utilized outside of Gallaudet? So, for example, we're talking about developing a pilot program with a public school program that does not have access to all of the materials we have at Gallaudet.

Chairman OWENS. In your elementary and secondary schools you have a considerable amount of instructional technology?

Dr. MOORES. Yes.

Chairman OWENS. What kinds of outcomes are you getting as a result? Are they improved or the same as they would be if you didn't have it? What's the situation?

Dr. MOORES. You would have to talk to somebody who is involved in that, in the evaluation of Gallaudet, of the Kendall and MSSD programs. But my outside impression is that it has been quite helpful and that they are in the process of making much of this material available to other school districts.

Chairman OWENS. Is it too early to call for the findings of research in this area? Am I premature?

Dr. MOORES. Dr. Karchmer might be able to respond to that.

Chairman OWENS. Dr. Snow, do you want to speak?

Dr. SNOW. I just wanted to say that we have at the NIDCD a national strategic research plan; one of the things that is called for in that plan is to assess the effect of captioning, telecommunication, and other technology influences on the development of literacy in deaf children.

Chairman OWENS. You are going to assess it? There are no assessments that you know of at present?

Dr. SNOW. No. I think that's still a matter that needs further assessment.

Chairman OWENS. Why do you think it's so slow?

Dr. SNOW. Well, I think we still don't have the number of people in the scientific community committed to this type of study that is needed.

Chairman OWENS. Dr. Karchmer.

Dr. KARCHMER. Kendall School and the precollege programs have been a leader in using computers for the education of deaf kids,

and they've been quite effective, it's my understanding, in the dissemination, through its Kendall network, in that area.

Chairman OWENS. When you say "quite effective," how has it affected the outcomes in terms of reading and writing, et cetera?

Dr. KARCHMER. I think we will begin to see in the next few years the answer to that question. If we see that the outcomes continue to rise on a national basis and rise in those school districts that use the technology, I think we'll have the answer to that.

My understanding also is that next fall there's going to be a study using CD–ROMs, in other words, very conventional technology, and putting it in the hands of teachers and students at Kendall and MSSD, to see how that makes a difference in terms of their access to world knowledge.

Chairman OWENS. Dr. Harkins, how much would it cost to have a project which captioned existing instructional materials used in the mainstream at elementary and secondary schools, made available on a national basis?

Dr. HARKINS. I wish I had an idea of the number of hours of video we may be talking about, or videodiscs that we would be talking about. The costs of captioning are falling somewhat, but basically you can count on $500 per half hour, at least, for captioning these materials.

Chairman OWENS. Is that all, $500 per half hour?

Dr. HARKINS. Yes. And one thing you might want to consider doing is having the makers of these materials caption them prior to their release. The government has been captioning these materials after their release for quite some time. Now that there will be decoder circuitry in every television set, you could have captions on all educational materials, and all children, whether hearing or deaf, could benefit from it.

It's a basic access issue where we have the equipment in place, but we don't have the market, in terms of educational materials developers, to caption. They don't have a market incentive for doing that. It doesn't make them sell more videotapes or more videodiscs.

But if the people who bought them, the school districts, were required to have everything captioned, and if this were—I liked Angel's word of needing a watchdog—if this were truly required, then we wouldn't have to always be playing a game of catch-up and trying to caption materials that are already out there, already shutting out deaf kids.

Chairman OWENS. You also have a golden opportunity for some entrepreneur here.

Yes, Dr. Moores.

Dr. MOORES. One of the sad things is that several years ago, I think 20, 25 years ago now, there were national regional media centers for the deaf that were federally supported. If I remember correctly, they were at New Mexico State University, University of Nebraska, University of Tennessee, and University of Massachusetts.

Perhaps they were established at a time when the field and technology were not ready to take advantage of everything, and they are no longer being supported. But I do want to note that media centers were in existence at universities 20 or 25 years ago.

Chairman OWENS. Thank you for the information. I'm surprised that we don't have better research to tell us more about the results and recommendations on the greater utilization of it, as a result.

Yes, I'm sorry, Dr. Harkins.

Dr. HARKINS. Typically, what happens is that within a project there will be some degree of measurement about the effect within that particular project. And very often it's very difficult to say whether that will generalize to other children. When you try to study it over a broad base of children, you have a lot of things going on at one time.

For example, we talked about children moving into local school districts in the 1980's, and we also talked about achievement going up during the 1980's. Also during the 1980's, we had closed captioning coming in. So we have many things going on at the same time, and it makes it difficult for a researcher to attribute to technology any particular piece of that growth.

But I agree with you, and I thank Dr. Moores for pointing out that the regional centers are no longer in existence and that the time has really—we've really reached a point where the technology is making a difference to such an extent that I think we are missing an opportunity in the next decade if we don't reexamine those kinds of programs.

If I can make one more comment, I also believe there is a need for a rehabilitation engineering center in the area of visual technology for deaf people or telecommunication, which is another important area, within NIDRR. There has not been such a center for at least 5 or 7 years, and it's critical right now. There's just so much going on, and there really are not the resources we would like to see to take advantage of things.

Chairman OWENS. I only have two more questions.

Dr. Moores, were you here when Dr. Johnson testified?

Dr. MOORES. Yes.

Chairman OWENS. Would you care to comment on the fact that some of the things that she said seem to be diametrically opposed to what you were saying? You say we need to give more time to academic instruction. She was saying, I think, that we needed more time for practical instruction and less emphasis on academics.

Am I misquoting her, according to what you heard?

Dr. MOORES. Well, first, my recollection of what she said was that in dealing with children who have additional handicapping conditions, which represent a large proportion of the population that we deal with, she was talking about things like these children spend time getting ready for Thanksgiving, or talking about turkeys, or something like that, rather than learning whatever it is they need to achieve and to survive.

I don't see any inconsistency. My feeling is that for all ranges of deaf children, from those with additional severe handicapping conditions to those who have no handicapping conditions, our expectations for these children are too low.

Chairman OWENS. Would you say her expectations were too low?

Dr. MOORES. No, I said our expectations. I mean educators of the deaf in general; that we can do much more with them. And I think what I said was consistent with what her approach was, too, that we're not doing enough for multiply handicapped deaf children.

Chairman OWENS. We're running out of time, and I have a number of questions that I'd like to submit to you in writing.

We have received, in our inquiries concerning recommendations for this reauthorization, comments which indicated that the field of research in this area is generally very sluggish, not as creative and imaginative as it could be, and not as concerned with moving to implementation as rapidly as it could be. I'm very concerned, because a lot of the testimony I heard today reinforces that line of criticism.

I'd like to close by putting you on the spot, Dr. Stoker, by quoting "In an age when others make excuses and look for ever more sophisticated pedagogical paradigms to throw into the fray, we are proud to say that it can be done and is being done every day at CID."

Are you saying that a lot of the research, that people are saying needs to be done, has been done already, and a lot of the answers are there in terms of the approach that you're taking? You're getting good results. How large is your student body?

Dr. STOKER. We have approximately 100 children enrolled in the school at any one time. And my comment was meant to imply that children who come from good homes, who are of normal intelligence, and who are in a program where a student/teacher ratio of approximately three to one is kept, and where adequate resources are put into the program, can achieve. Deaf children can do it.

The research that's needed is how we can extend those benefits to the many children we've heard about today who do not come from ideal home environments, who maybe have multiple disabilities, who require the support that we cannot provide economically, given our general economic status. I think research and development is vitally needed in that area. Technology and other applications of educational research may be of value there.

I think we should not be mistaken in acknowledging that deaf people are capable. They can learn. They have shown that. There's no question that the potential is there. I agree fully with Dr. Moores' assessment that we tend to underestimate consistently the abilities of our deaf children rather than overestimating them.

The charge before the intellectual and scientific community is to devise research that will identify those things that can be done to effect change for all categories of deaf children, not just for, admittedly, a very selective group that we are fortunate enough to work with.

Chairman OWENS. Thank you very much for that clarification. I think that's a good note to end on, as far as I'm concerned.

Mr. Ballenger.

Mr. BALLENGER. Thank you, Mr. Chairman. I just have a couple of quick questions.

We passed a bill in 1988 called Technology-Related Assistance for People With Disabilities. Dr. Harkins, has that had any effect at all, as far as you're concerned?

Dr. HARKINS. Yes, it has. I will try to explain. My feeling about some of the legislation that does not have specific provisions for deaf people is that it sometimes is not as effective for deaf people. I mean, it's a bit of common sense.

The ADA, for example, with Title IV on telecommunications, has a tremendous and immediate impact. In the Tech Act, each State assesses the underserved populations in its State; there are a great many underserved populations to deal with within the Tech Act. The problems that schools have in acquiring, keeping, and working the technology that will assist kids in education—I'm not sure the Tech Act reaches those schools to the extent that is needed.

Mr. BALLENGER. Right.

Dr. HARKINS. I think you still could go into an elementary department for deaf kids and find that there's no fax machine, and it's way down on the list of what could be purchased. There may be a couple of VCRs, but not enough to be used by the kids very often.

Mr. BALLENGER. Dr. Moores, this is purely for my own education. Do all schools teach both sign and lipreading?

Dr. MOORES. No. From the school programs that we work with, most of the large programs have evolved to the point where at least some of the programs teach through signs and through speech. When we first started 11 or 12 years ago, there were large school districts that were completely oral. Now, many of the school districts have a range of options open to the children; from my perspective, most of them have been pretty effective in individualizing instruction.

So within any one large school program, the range of options now is usually pretty good.

Chairman OWENS. Will the gentleman yield?

Mr. BALLENGER. Yes.

Chairman OWENS. Have the researchers come up with a consensus as to what is the best approach?

Dr. MOORES. I don't think so. The interesting thing is that there were a number of research studies in the past that looked at different groups of children. And you could say, in general, if you're dealing with mild/moderate hearing losses or something like this, you're better going with an oral-only. The greater the hearing loss, the more possibility that the child should have some kind of manual communication also.

Chairman OWENS. Do you think that it's an achievable goal, to come to the point where the researchers could reach a consensus about what is the best approach if a child fits into a certain category, so that we don't have the debate going on forever?

Dr. MOORES. I think there will be a debate forever. Right now I think we can make general decisions. What we want to do is have individualized decisions. There are so many different characteristics for each child that at any one point, there are going to be children that we're not sure of.

If I'm not sure of whether a child should have manual communication or not, my tendency is to be to say, yes, give it to the child. I think Dr. Stoker, on the other hand, might say no, wait a while. Those are the types of issues that we're dealing with.

When you do come into that judgment area, which I think is always going to affect education, that's the type of child that we're having difficulty with.

Mr. BALLENGER. I was just wondering if Dr. Stoker would agree with all that, since his school seems to specialize more on the oral.

Dr. STOKER. I think Dr. Moores and I are in basic agreement about the general state of affairs. I would say, however, that I feel that we are going to be in a situation where there will be honest differences of opinion for the foreseeable future. It's the nature of the beast. We're dealing with an extremely complicated organism, the human being, in a situation where hearing is lost by degrees, not by absolutes, combined with all manner of different variables.

So it's not unreasonable to assume that we're not going to get to a point where we'll be able to precisely define, on the day of diagnosis, what the perfect approach for a given child is. There's always going to be some opinion and professional judgment involved. So, yes, I think we are in basic agreement with that.

I would like to say, however, that one of my gravest concerns is that there appears to be a developing tendency for people to want to pigeonhole children into one category. In actual fact, in many of our large metropolitan areas, parents of deaf children do not have a choice about what type of educational program their child will receive. And the situation is really getting worse, from my point of view, in the sense that there seems to be a tendency for less choice rather than more choice.

But, again, I suppose that's a matter of opinion.

MR. BALLENGER. Thank you, Mr. Chairman.

Chairman OWENS. I want to thank all the panelists. I would like to communicate with some of you with additional questions. If you have any additional recommendations, we would welcome them within the next 10 days. Thank you very much for coming.

The subcommittee hearing is now adjourned.

[Whereupon, at 1:04 p.m., the subcommittee was adjourned, subject to the call of the Chair.]

[Additional material supplied for the record follows:]

OPPORTUNITIES FOR DEAF PEOPLE

STATEMENT FOR THE
SUBCOMMITTEE ON SELECT EDUCATION
U. S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.
MARCH 10, 1992

BUENOS DIAS ... Chairman Owens, Honorable Members of the subcommittee on Select Education. I am John F. Lopez, Chairperson of the National Association of the Deaf Public Policy committee. I also happen to be Vice President of Public Affairs for the National Association of Hispanic Deaf. However, I'm here as a "witness" and not as a spokesperson today.

My qualifications for this testimony are quintessential, by virtue of my experience as a deafened American of Hispanic descent. My extensive background and experience is unique as it is both; as an insider and outsider, in administration, education, mental health, and rehabilitation; and as an activist in my community.

First and foremost, I would like to take this opportunity to recognize and applaud your sensitivity and wisdom to include us, as members of an ethnic minority within the larger deaf community, in exploring ways to expand the Education of the Deaf Act to cover our needs.

The prevailing thought seems to be that we are not a constituency to be reckoned with and/or that people in general are not always genuinely interested in problems that they perceive to be an all minority problem. The historical perspective is thus to accommodate, rather than educate us.

Consequently what is happening is an outgrowth of the attitudes and policy toward us. There is a two-tier society within our deaf community: A minority of the affluent surrounded by a vast majority of the poor and disenfranchised. A large percentage of this core group are not really part of society. They live in their own culture and lack motivation and/or skills to enter the normal society of education, work and culture.

What keeps this problem from becoming a national disgrace and causing an outrage, is that it is camouflaged by Aid For Families With Dependent Children, Social Security and disability entitlements, which perpetuate unemployment and poverty. This problem will continue to grow and undermine our nation's economic

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and social health because it is not only a waste of human resources but erodes our tax base.

I am pretty shocked and traumatized by the whole experience. I really have come as close as anyone can come to realizing what it is like to be abandoned and destitute, because I am intimately involved with these people, and their treatment and on the receiving end in a sense myself. To say this is a serious problem is to seriously underestimate it. It is indeed a tragedy!

The following are areas which we must deal with in order to confront the problem, rather than the symptoms:

HUMAN RESOURCES - We need to recruit and provide training incentives for Spanish-speaking individuals who are interested in working with Spanish-speaking people in educational and rehabilitative settings. Certification courses and incentives should also be made available for general educational, interpreting and rehabilitation personnel who deal with Spanish-speaking people to make them sensitive to the linguistic, educational/ rehabilitative, cultural and other values of Hispanic individuals who need special and/or support services.

People often say, "we will be happy to hire minorities, but where are they?" Our answer to that is, if you make a genuine and aggressive effort to locate some --- you will. For example, in 1981 I was project manager for a Community Services Administration grant to the National Association of the Deaf to conduct Section 504 workshops in each federal region in the country. We were concerned about the small number of minorities that participated, so we pursued deaf minority contacts, who helped us recruit enough quality minorities to conduct a very successful extra workshop.

Another pet peeve of ours is being told that postgraduate degrees are prerequisite for entery level work. While we acknowledge the number of deaf Hispanics inexorably declines as academic qualifications are raised, we would like to point out that alot of people have been given the opportunity to earn their postgraduate degrees on the job, so why is'nt this opportunity extented to us, especially in view of the crucial need for deaf Hispanic role models in the education of the deaf?

PRESCHOOL EDUCATION - At the heart of the matter is the challenge of giving severely deprived children a chance to escape from poverty's ravages. We need to focus on the reality that such children grow up in an environment devoid of intellectual stimulation: no adults with whom to talk and explore, to read books to them or to answer questions. Without an opportunity for intellectual as well as social development, the gap that divides those children from affluent youths becomes so wide by school age

that catching up becomes nearly impossible.

High quality local early education programs should provide daily classroom programs, plus a reasonable number of weekly home visits with child's parent(s)/family to insure that parents will be able to play supportive roles in their children's education.

ELEMENTARY SCHOOL - By the time children enter school, they should be able to benefit from regular programs. Resource/ Support Personnel should be availabe to help children who need such services to keep up with their peers.

At this level, children should be helped to establish their identity and pride as deaf Hispanic individuals because many try to deny their color, heredity and/or ethnicity in order to fit in. They need to prepared for prejudice, which though waning, still lingers. Deaf role models are critical at this age level, so schools should be made accountable for including deaf Hispanic staff members in articulating their "core values."

Speaking about the lack of deaf Hispanic role models in the Education of the Deaf, I would like to highlight some questionable state practices that deny employment to graduates from out-of-state post secondary and/or graduate programs. For example, Diane Acosta is currently an outstanding Hispanic student at Gallaudet University who would like to return to teach Hispanic children in Texas after she graduates. Unfortunately, to be eligible for work in the mainstream Texas educational system, she must take Texas state accrediated courses and be certified. She is currently in the process of transferring to Lamar University in Texas.

I personally was a victim of such practices. When I graduated from Gallaudet University in 1966, I wanted to work with my people in Arizona, only to be told I was not eligible. I wrote to my then United States Senator, Barry Goldwater, explaining that the Arizona Department of Vocational Rehabilitation had sent me east in the first place. Goldwater wrote back ... "we must give priority/protect resident workers in our state!"

The question here is, should such practices make states ineligible for Federal special education funds, particularly in view of the fact that higher education programs such as Gallaudet University have a national mission and are Federally-sponsored?

MIDDLE SCHOOL - Flexibility should be highlighted at this level at which students develop values that they will carry into adulthood. Also this is the level at which students experience the "Turn-Off Syndrome" that often leads to drop outs.

Students at this level often start to experience livelihood

problems such as feeling isolated at home and/or become preoccupied with taking care of themselves. School support personnel must adapt to their individual needs and make sure that students don't start self-deprecation and self-description in devalued terms like "not smart," "poor English," etc., which implies they are demoralized with their self-image.

HIGH SCHOOL - Students in lower track or vocational educational programs suffer clear and consistent disadvantages, including low self-esteem and low expectations that become self-fulfilling prophecies. Young people give up on themselves when they believe that legitimate paths to success are closed to them or when they are made to feel that they lack the talent to do well in any career. They should therefore be taught that success is within their grasp and should be helped to bridge the gap between grades with after school and special summer programs.

WE SHOULD PUT AN END TO RIDICULOUS GENERAL CHARACTERIZATIONS/ STEREOTYPING OF DEAF STUDENTS AS HAVING 3 - 5 GRADE READING LEVELS. Statistics can be misleading, for example, there is no point to saying 97% of British communities have sewer systems compared to 85% in the United States because of traditional outhouses in the Southwest United States nor that 97.6% of British roads are paved compared with 85% in the United States, because of dirt roads in the South West and South East.

Reading test scores are usually based on standarized tests in English and do not include deaf students that do not need nor participate in special education programs. Such irresponsible professional comments don't only give inaccurate portrayals of our deaf children and youth, who are often pegged based on standarized tests in English - the rest becomes uphill for them, but can have a negative impact on the general public's perception of us adults, when it comes to adult educational and career opportunities.

Also, the fact that deaf individuals are entitled to special education up to the age of 22 should be advocated so that students will not have their education terminated before their age eligibility expires, unless they qualify for or are accepted into postsecondary educational programs and/or qualify for entry level employment.

VOCATIONAL REHABILITATION - There should be cooperative agreements with special education programs, with age 16 or 10th grade eligibility for prevocational programs, to minimize the cumbersome eligibility process and allow for a smooth translation from individualized written educational plans to individualized rehabilitation plans.

Based on my observations, vocational rehabilitation has been the

traditional "fall guy" for the frailties of the education of the deaf. Alot of exiting and/or high school graduates are referred to vocational rehabilitation by education of the deaf programs, in a "nonreturnable merchandise" manner, thus absolving themselves of any responsibility for their products. Often there is no coordination of this transition process so alot of students, especially those who do not know about vocational rehabilitation, are lost in the mainstream when their their education is terminated.

A 1970 follow-up study of 700 Downey SELCO (Southeast Los Angeles County) High School graduates showed that 70% were unemployed, basically because of lack of marketable skills and work experience, and that 50% were on Social Secutiry Income.

POST SECONDARY - Between the ages of 22 and 28 young people plan tentative life structures. They form their dreams: their visions of themselves in the world, their goals and aspirations. By this time, many young people have out lived their fantasies about life, are underemployed and have family responsibilities. This often forces them to come to grips with reality, so at this level, they are at their prime to develop into their maximum vocational potential.

Unfortunately, Vocational Rehabilitation and/or eligibility rules and/or regulations often render such individuals ineligible for vocational rehabilitation services so that they are doomed to remain functional illiterates with no formal job skills and sink into poverty so the welfare system picks them up. The question here is why not convert welfare systems and entitlement programs into vocational rehabilitation training programs leading to jobs?

Another questionable practice about vocational rehabilitation decisions or unwritten rules and/or agreements is the efforts of state agencies to hold back marginal students who are accepted into out-of-state post secondary programs in local or state post secondary programs and to restrict out-of-state support to students who attend Gallaudet University or the National Technical Institute for the Deaf only. Such actions not only violate the basic values of our constitution in terms of freedom of choice, but keep our most brilliant students from developing their maximum vocational potential in programs that would otherwise cost less than the stated programs they are being restricted to.

LAWS AND REGULATIONS - Our Constitution guarantees certain elements of freedom, but the guarantee is not self-executing and laws can only follow change in attitude. Because new laws/regulations touch off debate ... there is a long history of non-enforcement in Special Education. For example, in El Paso, Texas, Lisa Estrada, a 17 year old senior in a mainstreamed John

program, has been struggling for four years, without success, to convince her local school district to provide her with a sign language interpreter.

And speaking of wide disparities in the quality and scope of various school systems, there are well-documented cases such as in California (Fleisher) and New York (Rowley), where resourceful parental persistence resulted in children being assigned personal sign language interpreters.

Based on our experience with Section 504 of the Rehabilitation Act and Public Law 94-154, it takes at least 10 years, usually fifteen before any change can be instituted in our deaf community. With the passage of the Americans With Disabilities Act, our deaf community is left unprotected from people with "gold rush mentalities" in such unregulated enterprises as interpreting and captioning, who are taking advantage of us with their self-promoting and exorbitant fees. Such behavior usually results in adverse effects against us in terms of discrimination in employment (to hire a deaf person means having to provide interpreting services at $60.00 per hour/two hour minimum/plus travel/parking expenses/hassle with a minimum of 72 hour advanced notice of request for interpreting services), programs (WJLA TV in Washington, D.C. refuses to caption 11 o'Clock News, citing that $500.00 + per half hour of live captioning will be an undue burden on the financial stability of their company), etc.

To put an end to this exploitation, and especially to protect children from disadvantaged families, the Education for the Deaf Act should be modeled on successful laws that are self regulating or which have their own safeguards, such as the National Highway Safety and Transportation and the U.S. Occupational Safety and Health Acts.

OMBUDSMAN - Education of the Deaf, like malpractice issues, is performed behind closed doors, not regulated, no school boards, etc. Our job is to create an atmosphere that will encourage "Friends of the Education of the Deaf" to hold schools accountable and make sure that the rotten barrel is eliminated. Our children deserve no less - they are our shiniest apples.

The Federal Older Americans Act requires an ombudsman ("watchdog") program in every state to monitor agencies/programs which seem to substitute public relations for real efforts to meet or even measure the needs of the elderly community. As a result, the program has effectively met its main objective of virtually wiping out poverty among the elderly in America by assuring that elderly people have access to programs and information.

To be effective, the ombudsman's office must be independent from

educational agencies/departments and have direct access to the governor and/or mayor's office. As altrustic and responsible citizens, we want to be a model for the way our local educational problems are dealt with and be able to hold educational officials accountable for failing to meet a crucial test of conscience, courage and leadership.

RESEARCH - Our deaf community has been analyzed to death, so more research is not likely to yield any significant facts. Educators like to talk about the exceptional children at either end of the spectrum, but they shy away from the word "average." And schools are almost always judged by how well they have done for the "5%" of students who qualify for or are accepted by our elite East Coast postsecondary programs. This "5%" of our elite students are the Washington National Zoo's panda bears of deaf education.

A recent study (10/2/91 AAMT Presentation: JC Skilton) projects that of 32,641 college-age students in 1992, 690 will be postsecondary degree holders, 5,971 will remain in high school, 3,590 will be exiting high school and 6,262 will enroll in college. What happens to the other 16,128? In retrospect, we need to ask, "is Education of the Deaf the real problem and illiteracy among deaf people only one of its consequences?"

We would thus recommend that Deaf Education shift the magnifying glass on itself and find out how well it is teaching students, where has it has succeeded, where it has not and what it should do to improve itself. Are teachers for the deaf adequately prepared to understand the general disabling effects on the educational, emotional and social development of deaf children, their special needs? How well can teachers for the deaf communicate with their students in both, manual lanuage and English ... and Spanish in the case of personnel working with Spanish-speaking people? It is crucial that we research and develop better ways to assess and teach Hispanic children and to measure quality education.

We acknowledge this process will not be cheap, but in the long run it will pay for itself, in terms of content and productive citizens who will return our investment on them by increasing our tax base.

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